

## Broad Left sweeps back in

by Peter David

The Broad Left scored a series of impressive victories as the Conservative vote slipped back when the National Union of Students elected its executive at the Blackpool Conference this week.

The NUS elected its first black president, Mr. Trevor Phillips, 24-year-old chemistry graduate born in London of Guyanese parents. He will take over from Miss Sue Slipman, the union's first woman president, in July.

Other Broad Left candidates captured seven out of eight key posts on the executive of the 800,000 member union.

The victories came as a blow to the Federation of Conservative Students whose supporters were much thinner on the ground than last year, when their votes were needed to elect Communist Sue Slipman in preference to a Trotskyite rival.

This year the Broad Left candidate romped into the presidency without having to rely on the transferred votes of either the Conser-

vative students or the two ultra-left groups, the National Organisation of International Socialist Societies and the Socialist Students' Alliance. Mr. Phillips collected 358 votes in the election, easily outstripping the 77 votes of Mr. Eddie Longworth, the Conservative candidate. Mr. Mick Archer, the SSA candidate, received 115 votes and Mr. Alan Strathmore, a member of the NOISS, came third with 104 votes.

Mr. Phillips, who describes himself as a non-aligned democratic socialist, was elected alongside Broad Left candidates belonging to both the Labour and Communist Parties. Two of the four full-time members of the new executive—Mr. David Aaronovitch, the national secretary, and Ms Penny Cooper, the treasurer—are Communist Party members. Mr. Alan Christie, who replaces Mr. Pete Ashby as deputy president, is member of the Labour Party.

Mr. David Wilks, chairman of the FCS, conceded that the results were "disappointing", but pointed out that it was the first set back suffered by the 16,000 member

federation since it started from scratch four years ago.

The only serious disappointment for the Broad Left in the elections was the loss of one out of four vice-presidential places. Ms Alison Dunning, a member of the SSA, was elected vice president in charge of welfare. The other new vice-presidents—Mr. Paul Conlon (Services), Ms Fiona McTaggart (Education) and Ms Helen Connor (Arts)—are Broad Left members.

Reports that the Department of Education and Science intends to bring in changes next year in the way student unions are financed have been denied by Mrs Williams, the Secretary of State for Education and Science.

A letter from Mrs Williams to Miss Slipman was published this week. It says that no plans exist to change arrangements in the 1979-80 academic year, and that any changes in later years will be introduced only after consultations with the NUS, the local authority associations and university and polytechnic interests.

## Task group to study skills taught on YOP

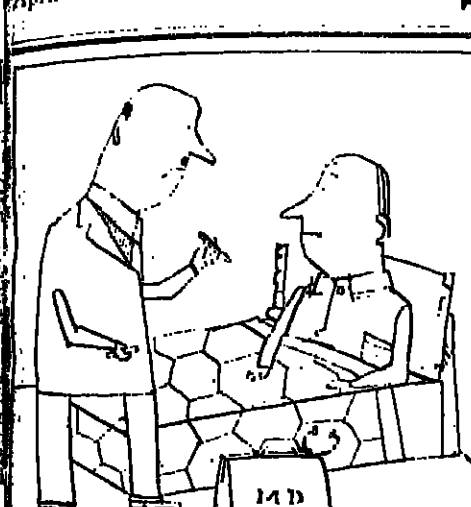
The Manpower Services Commission is to set up a task group to look at the kind of skills people should be taught on Education Youth Opportunities Programme.

The YOP, launched on April 1, will offer nearly 300,000 young people an opportunity for education and training through a variety of schemes.

The task group is to be composed of representatives from education and industry who have had some direct experience of working with and training young people. It will also include some young people.

The group aims to study the skills that most of the young people will be dealing with as they enter the workforce and to recommend ways in which the curriculum should be changed to meet the needs of the future.

April 14, 1978 No 335



"It's nothing serious. Just keep warm, stay in bed and keep away from Fred Hoyle."

THE TIMES  
Higher Education  
SUPPLEMENT

April 14, 1978 No 335

## PM is drawn into cold star wars

by Robin McKie  
Science Correspondent

Two of Britain's leading astronomers have complained to the Prime Minister that the country's scientific establishment is obstructing their research because it challenges the Darwinian doctrine of the Earthly origins of life.

Sir Fred Hoyle and Professor Chandrasekhar Wickramasinghe, both of University College, Cardiff, have accused the Science Research Council of withholding grants for their work, which proposes that evolution began on comets, because their views are particularly radical and unusual. Indeed, the astronomers' latest research suggests this process is continuing and recent epidemic diseases, including this winter's red flu outbreak, have come from outer space.

However, the SRC has rejected this accusation and an official said their grant application had been assessed and turned down because it

did not fulfil the council's normal requirements for research should show "timeliness and promise".

Sir Fred and Professor Wickramasinghe have recently published papers which argue that comets in the early solar system acted as giant culture pools where complex organic molecules were mixed with water and kept warm. Life began there and only reached Earth when the comets crashed on our planet.

Evolution has continually shown bursts of change since then and they believe the enormous additions of new genetic material needed for this have come from comets. Viruses and bacteria have also evolved in outer space.

Professor Wickramasinghe said these views had upset both astronomical and biological establishments and as a result, the SRC had rejected their request for a £7,500 grant to cover computing facilities and travel.



## Oakes calls for more access for disadvantaged

A call for more access to adult education for ethnic minorities and disadvantaged students was made by Mr Oakes, Minister of State for Higher Education in the National Institute of Adult Education conference.

He said: "Adult education must increasingly become more student-centred if it is to deliver its benefits fully and fairly."

It had not done enough to try to attract clients from ethnic minorities. Great sensitivity and imagination were needed to devise programmes which recognised the different backgrounds of potential students.

"There is also a job to be done in seeking to educate employers about the educational needs and aspirations of their workers."

He would like to see the adult education service making an effort to reach out to people whose need was greatest.

Mr Oakes also called for an end to rigid boundaries between provisions for adult and continuing education. Adult education was one of the many strands from which a comprehensive network of continuing education could be woven.

Earlier, he said it was regrettable that the rethinking of adult education being undertaken by the Advisory Council for Adult and Continuing Education was taking place against the background of declining numbers in the field.

Local authorities had faced difficult decisions about resources.

## Fowler outlines major tasks for advisory council

Major tasks ahead of the new advisory council on adult and continuing education were outlined this week by the group's founder, Mr Gerry Fowler, the former minister of state for higher education.

Mr Fowler, speaking to delegates at the National Institute of Adult Education conference in Cardiff on Tuesday, hoped the council would tackle in particular the issue of paid educational leave.

"We are no longer living in a period when it is reasonable to accept that a person can, in youth, acquire the skills that will be necessary for the whole of his working life."

"That was the saddest thing about the great debate. We again turned back in on the schools and said schools were failing to prepare people adequately by the age of 16 for the whole of their working lives."

"The schools will continue to fail because, in this day and age, you cannot ask educational institutions to turn out people equipped to soldier on until the age of 65."

Britain had to come to terms with long-term unemployment. "Paid educational leave is one element in a total pattern of provision which will ensure you can have full employment. There will be other parts of the package—including voluntary retirement, and the shorter working week."

But paid educational leave would be an essential element in the package.

## NUS wants fund to help poly students on the bread line

by Sue Reid

The National Union of Students has urged the Government to set up a central emergency fund to help an estimated 2,000 students who might have been forced to leave polytechnics or colleges because of poverty.

A campaign document, outlining the results of a national survey of student hardship provision by local education authorities, has been sent to Mrs Shirley Williams, Secretary of State for Education and Science.

It shows that more than 90 per cent of L.E.A.s included in the survey could not identify a specific student hardship budget although £600,000 was awarded to them for the purpose this year through the Rate Support Grant.

The document highlights the confusion surrounding the question of whether the college and its main-tenance L.E.A. or the L.E.A. where the student is "normally resident" is responsible for dealing with hardship. It also claims that 35 per cent of authorities refuse to look sympathetically at self-financing students facing hardship because of tuition fee increases.

The NUS is calling on the DES to clarify that in the next year the college and the home L.E.A. should be responsible for hardship. "This," it says, "would simplify the situation and bring the public sector colleges into line with the universities."

It wants the central emergency fund to be set up "within the next two or three weeks" to help "a couple of thousand" self-financing students unable to pay the new fee

levels. Many students in this category have been told that unless their spring term fees are paid they will not be allowed to start the summer term.

Mr Pete Ashby, deputy president of the NUS, told *THE TIMES* this week: "It is for this reason that urgent Government action is needed. The results of our survey reveal that public sector hardship arrangements are in chaos. To increase fees by up to 100 per cent, virtually without notice, was taken. To do so without exempting continuing students was appalling."

Polytechnic and college residence charges should be negotiated locally with the national ceiling has been set, the NUS said today.

In a special memorandum the NUS has argued that the normal practice of the later Authority Payments Committee on Residence Charges setting a norm for all colleges should be dropped. Instead the committee should name a top level.

The memorandum says: "The standard boarding charge should be regarded as a ceiling subject, to negotiate downwards at college level. It adds that authorities should be able to reclaim from the 'pool' the difference between the fee charged and the actual costs if a deficit occurred."

The NUS argues for increased flexibility and a reversal of the current trend towards a steadily higher portion of the grant each year. It says the increase in the standard boarding charge should be less than the increase in the grant.

## Recovery retarded by chemist cutbacks

National recovery is being retarded because industry is employing fewer chemists, the Royal Institution of Chemists, Mr Norman Thompson, told the Annual Chemical Congress in Liverpool this week.

Mr Thompson said the number of chemists in the United Kingdom had fallen from 10,000 in 1970 to 8,000 in 1977. Other elements of the offer are: a clause allowing colleges engaged in a stable amount of low level work to employ more lecturers than Grade Two. It is estimated that this will allow the promotion of 1,500 lecturers from Grade One.

Special responsibility allowances to be increased by 10 per cent. national guidelines for the initial placement of staff on the Lecturer Grade One scale.

In adult education, the new national salary structure agreed last May is to be implemented from this month. The first review of salaries will take place in September 1979, to align the structure with the academic year.

## Universities' grant confirms modest revival

by Peter Scott

The modest revival in the financial fortunes of the universities was confirmed on Monday when Mrs Williams, the Secretary of State for Education and Science, announced that their recurrent grant next year would be £619m.

She also announced provisional figures for grant in the subsequent three years: £635m (1979-80), £650m (1980-81), and £670m (1981-82).

Next year's grant is a cash limit which has been calculated on the assumption that pay increases for all university staff will rise by between 6 and 10 per cent and prices will rise by 10 per cent. However, Mrs Williams said the House of Commons that the grant might have to be increased to pay for the first step towards the recognition of the university teachers' pay anomaly.

She added that if the pace of pay and price increases generally, or of those which affected universities in particular, were substantially higher than those assumed, the cash limit would be increased.

The case for a "Brookings" Foundation.

A look at City and Guilds and the promotions problem.

The case for a "Brookings" Foundation.

Anthony Kenny on Descartes.

## 9.6 per cent and new salary structure for poly teachers

by Maggie Richards

An across-the-board increase of 9.6 per cent and improvements to their salary structure have been proposed this week in a new pay package for polytechnic and college teachers.

The offer, which also includes new pay arrangements for part-time staff and the introduction of national scales in adult education, is to be discussed at a special meeting of the executive of the Association of Teachers in Further and Higher Education on April 24. The Burnham Further Education teachers' panel has recommended acceptance of the offer.

The package allows for the absorption of more than 50 per cent of category III work: they will automatically move through the senior lecturer bar to the next point on the salary scale. The new clause will affect lecturers engaged on Higher National Diploma and Higher National Certificate work.

In adult education, the new national salary structure agreed last May is to be implemented from this month. The first review of salaries will take place in September 1979, to align the structure with the academic year.

Research staff employed on the

Alteration to salary bars—the new criteria will be the amount of advanced level work covered either in a three-year period, or during the final year.

A review of the grading of courses—the claim for the merger of categories II and III, and IV and V has been rejected.

New national salary scales for part-time staff. For the moment these will be based on an agreed temporary method of calculation, but it is intended to develop a set formula, based on a proportion of full-time rates.

A new deal for senior lecturers undertaking more than 50 per cent of category III work: they will automatically move through the senior lecturer bar to the next point on the salary scale. The new clause will affect lecturers engaged on Higher National Diploma and Higher National Certificate work.

In adult education, the new national salary structure agreed last May is to be implemented from this month. The first review of salaries will take place in September 1979, to align the structure with the academic year.

Burnham scales will receive the 9.6 per cent increase. An effort is to be made to establish a new pay structure for research staff.

One area where the teachers' panel failed to obtain any agreement was in remedial credit for unaccompanied work. The claim had requested a credit system for women who left the education service to bring up children, and consequently suffered in terms of promotion and pay.

The management panel refused to acknowledge that the system would be as relevant to further education as to the primary and secondary sectors, where it is already in operation.

The negotiators did, however, obtain a reaffirmation of the Burnham Committee's commitment to the principle of the Toughness agreement—that teachers engaged in work similar to that undertaken in universities should enjoy broadly similar career prospects to their university counterparts.

During discussions it was emphasized that settlement of the university pay anomaly would upset the balance between university pay scales and those in the public sector of higher education.

## Dons will get backdated pay rise this month

by Judith Judd

University teachers will receive their 9.8 per cent pay increase backdated to October 1 at the end of this month. The Association of University Teachers said this week that decisions on the grant to be made by university finance officers following advice from the AUT.

Last week, the University Grants Committee sent out a circular saying the Government had agreed to implement next year's grant to allow for the increase.

Originally, the Government allowed only five per cent for pay increases but the grants announced this week will cover awards made to all university employees. The decisions have received an award of around 10 per cent.

The UGC circular also refers to those members of staff who, under stage two of the pay policy, were entitled to reckon a London allowance as income for the purpose of calculating a 5 per cent salary increase. Their 9.8 increase will be based on their salary excluding the London allowance of £450.

Committee II, the university salary negotiating body, will meet again next week, when the AUT expects the Government to make final examination papers. The first examinations start on May 7.

Sir Charles Carter, vice-chancellor of Lancaster University, has sent a memorandum to heads of department suggesting that they might "provisionally" agree to students if the marking ban goes ahead. He proposes that continuous assessment should be used.

The memorandum asks heads of departments to find out the intentions of members of staff about the ban but Lancaster AUT has advised its members not to say what they mean to do until the last possible moment.

## Budget boost for shortage subjects

Next year's wage settlements should be kept to about half this year's if the objectives of the Budget were not to be lost, Mr Hesley, Chancellor of the Exchequer said in the Commons this week. He also announced unspecified further sums to continue the programme started last year to train and retrain teachers in subjects in which there is now a shortage of qualified staff: mathematics, science, craft, design and technology.

René Descartes



Anthony Kenny discusses a new study by Bernard Williams of the significance of Descartes' philosophy. 18

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Peter David reports on the NUS conference at Blackpool  
Paradox and pluralism  
on the shifting sands  
Public's right  
to scrutinise  
is accepted

Last week's National Union of Students conference at Blackpool was a procession of paradoxes. Teamed up to squeeze Liberals and Conservatives out of the national executive, Students voted in favour of guerrilla movements in Rhodesia but balked at support of the IRA. The conference moderately accepted the public right to scrutinise student union spending. It militantly restored last year's controversial ban on speakers labelled fascist or racist.

Whatever inner logic dictated the shifting alliances was not political in the traditional sense: the Communist of the Broad Left ruling alliance and the common political ally of the Trotskyites and the Conservatives or Liberals. The clue to the topsy-turvy conference can be found in two vogue "isms" much on the tongues of student leaders: sectarianism and pluralism. The latter, once policies huddled as "broad based and pluralistic" was the height of praise; the former, narrowly sectarian, the ultimate calumny.

The most vocal supporter of pluralism—which in NUS terms means accepting the right of Conservative and Liberal students to play a full part in the union—was the Broad Left. Those most frequently accused of sectarianism were the ultra-Left groups: the National Organisation of Internationa-Socialist Student Societies and the

The Broad Left of course, can afford the luxury of pluralism. Its hegemony was amply reinforced by sweeping victories in the elections for the next year's executive. Mr Trevor Phillips, the new president, and his three lifetime colleagues, are all Broad Left members. The alliance also captured all but one of the four vice-presidential posts. Next year's executive will consist of 11 Broad Left students, three members of the SSA, one member of NOISS, a Liberal and a Conservative.

So confident was the Broad Left that it did not trouble to contest all bottom seven posts of the executive encourage pluralism, according to Miss Sue Slipman, the outgoing president. But the

collapse of the Conservative vote by almost half, and parallel gains by the ultras, gave the Broad Left some nasty moments. Broad Left votes succeeded Mr Stuart Bayliss, a Conservative, and Mr Gavin Grant, an ultra-Left, on to the executive. Even so, the final tally of four Trotskyites on the executive was probably more than the Broad Left had bargained for.

What worries the Broad Left is that the NOISS and the SSA threaten to dilute its need and credibility within the educational establishment. While the Broad Left executive, and its Conservative allies, favour negotiation and argument in pursuit of student demands, the direct belief almost religiously in the direct action of all studies Left believes in taking to the streets. The executive, in marked contrast, has learned to fight student battles within Whitehall.

Itence the Broad Left's support of "pluralism." An important ingredient of credibility, it believes, is participation in NUS of a wide range of respectable political opinions. Disaffiliations by Conservative unions so soon after the Federation of Conservative Students has established its own student politics would jeopardize the union's claim to be a serious, democratic and responsible pressure group worthy of the Government's ear.

For these reasons, Miss Slipman was careful to point out in her closing speech to the conference how valuable a very role in the national executive had been. She went so far as to express her personal satisfaction at the re-election of Mr Bayliss and warned the ultras that they would never lead the union if they remained trapped in their "narrow sectarian politics and repeated the same dull regurgitated phrases about this, that or the other struggle."

With the election of a non-aligned pragmatic successor in the person of Trevor Phillips, Miss Slipman has an offer to be confident that the NUS will not turn suddenly away from the course of pluralism, respectability and the efforts of her predecessors, Mr Charles Clarke.

## 'No platform' policy restored

The NUS controversial policy of denying a platform to anyone deemed "fascist" or "racist" was restored at the union's Blackpool conference last week only four months after it had been removed.

An amendment bringing back the ban was passed by 273,450 votes to 23,790 despite an emotional appeal against the decision by Mr Trevor Phillips. He abstained on the vote but promised that he would implement the policy if it was supported by the conference.

According to the resolution restoring the ban the dropping of the "no platform" policy at the NUS conference in December had harmed

many student union campaigns against racism. It added: "Racists and fascists should be denied a platform wherever it is possible to do so through mass collective action, not through individual acts of violence."

The National Front and the National Party use the "free speech" argument to get a foothold in the union and build racism.

A split in the Broad Left alliance between Communist and Labour students enabled the resolution to get through. It was bitterly opposed by Communist Party speakers, but supported by the National Organisation of Labour Students (NOLS).

## Adult departments forced to cut back

by Jane Feinmann  
Financial constraints have forced some university departments to pick and choose among the more lucrative areas of adult education. This was stated in the Universities Council for Adult Education's annual report for 1976-77, published last week.

In a round-up of the year's events, the report said that adult education departments have had to bear reductions in long-standing local education authority grants at the same time as rapidly rising student fees. As a result many departments had halted longer courses in favour of shorter ones. "Oxford, Bangor and Belfast commented specifically on the change while many others maintained a discreet silence despite the evidence of the statistics," it said.

Other departments were making deliberate choices in favour of courses which could attract a high fee, such as specially post-experience courses for professional groups. "Clearly a growth area," said the report.

It said that motives behind the popularity of these courses varied. But the consensus view was that

"there might be value in securing a greater number of specialized post-experience courses that can demand a high fee."

It said that most departments had been forced to raise fees during the year. Glasgow had introduced a five-fold increase in fees compared to the previous session although this was by far the highest. But Oxford had increased its fees by a half, Keele by a third and Bristol by a quarter.

The report said the fees rise had in general been absorbed without great effect on the level of recruitment. But Belfast had reported "instances" of classes where students simply could not afford the normal fee, and the department at Bristol had noted that "the higher fee was already shifting recruitment towards the financially better off."

The report said that only in two universities had there been an increased commitment from UGC funds to departments of adult education.

For some universities the last few years has increased the students' share of the financial burden almost in direct proportion to the reduction in the UGC's share. It

The NUS decided to accept a public's right to scrutinise the student union funds are used. Following a lengthy debate, Mr Trevor Phillips, the newly elected president, said every elected officer should allow his audited accounts to be displayed in public libraries. "We are asserting our right of what we are doing and we are open to public scrutiny."

Delegates threw out a series of resolutions arguing that students should be accountable to the public, but their own members. One resolution, backed by the ultra-Left, accused the conference of "misuse of funds as 'ridiculous' and 'elitist' that students had a right to their own finances 'independent of outside interference, including the courts'."

Mr Mick Archer, president of Birmingham Polytechnic's student union, said that he did not advocate mass breaking of the law, or the making of ultra vires payments by their own sake. But he urged students to reject the principle of accountability "to the state and its institutions." He told delegates: "We must stand firm that your money will be where you want it to be."

But most delegates voted in favour of an executive sponsored resolution stating that public scrutiny is a necessary corollary of the union's right to spend public money. It went on: "To reject the concept of public scrutiny is necessarily to reject public financing and therefore open the way for individual and voluntary membership of student unions, a step which can only be detrimental to the student movement."

Against executive advice, however, the conference voted in favour of an amendment calling on the NUS to draw up an "autonomous charter" devolving the legitimate rights of student unions. Among the rights outlined in the amendment were the right of unions to affiliate to campaigns and pressure groups, to educate and to provide transport to rallies and demonstrations. But it argued that fund-raising events were more effective "solidarity actions" than voting money away at student general meetings.

The conference also supported a conciliatory executive motion on grants and education cuts, rejecting ultra-Left resolutions arguing that students should join the fight against unemployment and wage controls, and demand a £1,800 grant for the retention of all teacher training places and the abolition of the means test.

The successful executive motion pledges the union to restore student grants to their 1962-63 value

THE TIMES HIGHER EDUCATION SUPPLEMENT 14.4.78  
Ruskin principal hails  
DES's fifth option

by Maggie Richards

The need for radical changes in adult and continuing education was pinpointed last week at the three-day conference of the National Institute of Adult Education.

In the final session, Mr Billy Hughes, principal of Ruskin College, Oxford, assessed the likely impact of the conference on the new advisory council, which is engaged in playing long-term strategies for adult and continuing education.

Mr Hughes, a member of the advisory council, welcomed the beginning of a new "Great Debate" on higher education, with the publication of the Government's discussion document *Higher Education into the 1990s*.

In particular, he hailed the fifth option in the document—favoured by Mr Gordon Oakes, Minister of State for Education—as "a great fight for adult educationists and mature students."

Referring back to the Russell Report of 1973, Mr Hughes said it had attempted to bring about changes without existing patterns of provision. Five years later the climate was very different.

The conference had clearly demonstrated the need was no longer for comparatively small evolutionary changes, but for radical developments.

Mr Hughes outlined four major factors which he felt had intervened in the period since the Russell report. The adult literacy campaign had shown that it was possible, on a small budget, to cut across educational barriers on a vast scale. It had paved the way for cooperation

between local education authorities and other agencies, notably the BBC. It had created a need for other basic adult education programmes, including numeracy and social skills.

There was a need to relate adult education more closely to the Labour market to combat the problems of unemployment. Paid educational leave, day-release training and earlier retirement were all likely to be introduced in the future.

Trade unions were realizing the importance of education, and there was likely to be expansion in the area as the unions increased their demands for a larger share of educational resources.

Provision of opportunities for adults at degree-level through the Open University had also revealed the need for provision at lower stages.

Continuing education should not be viewed merely as a remedial exercise, Mr Hughes told the conference. "It is a vital necessity of our national life, and will continue to be so, whatever the quality of the full-time education service," he said.

Local education authorities had, in the past, concentrated on providing leisure-time pursuits. This had only served to remove adult education from the social and industrial environment. It had become a "peripheral fringe."

A new "Great Debate" on continuing education was needed to bring the present adult service back from the periphery of the education system, and to bring about the realization that adult education was vitally concerned in the social, political and economic problems of the present.

The decision came after lengthy discussions by the two bodies in an attempt to end the duplicating of services to schools in the south west.

Mr John Symonds, Secretary of the Southern Universities' Joint Board, said that the main advantages in the first few years of the merger would be administrative.

We both have schools in the same area and the merger will mean we can avoid unnecessary expenses. We will arrange joint deliveries of exam papers, and one oral examiner will be able to visit all the schools in the same area even though they may be working on different syllabuses."

The two bodies will also arrange joint purchasing of stationery and printing, and the Southern Universities will use the UCL's extensive computer facilities.

Mr Symonds said that initially the two bodies would retain their individual character and features. "However, we expect there will be a gradual coming together over the next five to ten years," he said.

"We expect to be able to offer the syllabuses of both boards to all our schools after 1981 and, if one syllabus drops into unpopularity, then we will be able to replace it with the syllabus from the other board," he said.

## Manuscript fills BL gap

The recent acquisition of the manuscript of *Heartbreak House* described by George Bernard Shaw as his greatest play, has filled an important gap in the British Library's extensive Shaw collection.

The manuscript is one of the few Shaw did not donate to the then department of manuscripts of the British Museum, now the British Library's reference division, which holds the majority of his works, including drafts of 18 major plays.

The manuscript had been held by the Royal Academy of Dramatic Art which had received it from the author's Luton solicitor, two hand including the stage directions in red-ink.

Surrey appeals  
to industry  
for finance

by Patricia Santinelli

Surrey University is launching a major appeal to industry for funds to develop its teaching and research and to extend its social facilities during the next decade.

Lord Rubens, former chancellor of the university and chairman of the appeal committee, said: "A decade ago, Surrey University was set up to work in close collaboration with British industry and there is no doubt that it is delivering the goods. In the quality of its graduates, the demand for them by industry and in the quality and practical value of its research, it has won wide recognition."

He said the recent discovery by the university of a substitute for asbestos cement was indicative not just of the standard of its work but also of its practical approach to the needs of industry.

It is on the basis of this success that the university has launched a coordinated series of appeals each aimed at a specific sector of British industry, mainly for equipment and endowed appointments to extend its work in fields of direct interest to industry.

The single item in the university's list of needs is an institute of industrial and environmental health and safety to be built alongside the new Guildford District Hospital and to work in close association with health services, industry and government agencies.

Its purpose will be to provide a national centre for information, advice and investigation of health and safety matters, free from political or commercial pressures, to provide specialised training courses, and to carry out research in priority areas.

The university believes it is well qualified to conduct such a centre mainly because of its international reputation for its teaching and research in toxicology and its discovery of a new method for screening substances to see if they are likely to cause cancer.

Crunch- 100 million  
numbers used

Queen Mary College, London, is to be the first to acquire an immensely powerful new £1 million ICL computer system capable of carrying out 100 million calculations per second.

This enormous increase in power has been made possible by the development of the Distributed Array Processor (DAP)—an array of simple processing elements which are incorporated within the store of a conventional computer.

By 1979, as a result of the Computer Board's purchase of the DAP facility, the college's new ICL 2980 computer will carry out 4,097 operations simultaneously, enabling it to solve three-dimensional and other problems at greater speed.

This will be of great benefit in many areas of social and scientific concern at both national and international level. The system will be able to deal with problems in environmental pollution studies, financial modelling of the economy, weather forecasting and energy studies such as fusion research or reactor engineering, undertaken to determine the most efficient means of extracting oil from the North Sea.

Employers not best served by  
'bewildering' chemistry choices

by Robin McKie  
Science Correspondent

Recent experiments in teaching chemistry at universities have led to a bewildering choice of subject combinations that has little to do with the needs of industry, the retiring president of the Chemical Society told the Annual Chemical Congress in Liverpool last week.

Professor Alan Johnson, of Sussex University, described these moves as an over-reaction by universities in the face of school-leavers' growing antipathy for the subject, together with the dramatic decrease in the number of industrial posts for chemistry graduates and the creation of new centres of higher education.

"A bewildering choice is now open to potential chemists in many departments in an endeavour to broaden the curriculum and emphasize the flexibility of chemistry courses," he added. "Chemistry with education, chemistry with economics, chemistry with modern languages and environmental studies in various forms and disguises now join the traditional joint honours courses."

"I am not convinced that our industrial friends, with a few notable exceptions, really want this type of training and I am encouraged that the status of a good single-honours chemist remains as high as ever it was."

Professor Johnson also emphasized that the severe restrictions on University Grants Committee funding, and the poor prospects for any improvement, were putting the non-selective support of universities under severe strain. Taken with increased commitments over fire precautions, health and safety, universities were finding it increasingly difficult to guarantee the "well-found departments" on which research councils relied.

Later, at a congress symposium on "The communication of chemistry through textbooks", the question was raised of whether lectures should form the main source of examination material or remain side-shows to the basic use of books. One speaker, P. W. Atkins, of Lincoln College, Oxford, maintained that textbooks provided a consistent, sustained view of the subject in contrast to lectures where individuality, idiosyncrasy, and a dash of outrageousness ought to show there is room for argument and fun.

"Textbooks are maps of the district, lectures are side-shows," he stated. "And added: 'Textbooks should be like beautiful women. They should be good to look at because they have got to attract your attention. They should be seductive. Your attention has to be captured by the cosmetics and once captured, led on. Led on into things you had not expected, perhaps, to enjoy'."

## Engineering guide

A total of 180 lower sixth-formers from schools in northern England will attend a conference on "A career in professional engineering" at Salford University next Thursday and Friday.

The meeting has been organized to provide pupils with an introduction to different types of engineering and career opportunities open to graduate engineers.

## AMA election

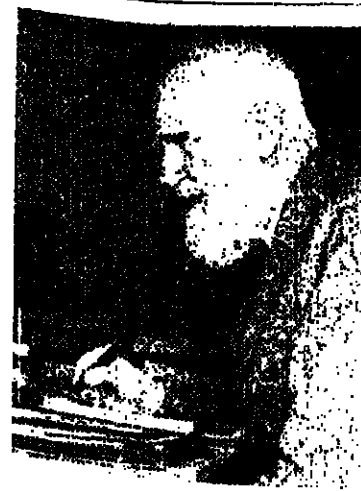
Alderman Mrs Nicky Harrison of Haringey has been elected chairman of the education committee of the Association of Metropolitan Authorities. She has been vice-chairman for a year and succeeds Mr Peter Horton who was an AMA representative on the Oakes committee on the management of public sector higher education.

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The Arts Council of Great Britain invites the submission of projects for films on the contemporary arts. Through the Arts Films Committee the Council has a developing programme of arts documentary production but is especially concerned to make more films about modern art and living artists. Subjects drawn from all areas of activity supported by the Council: painting, sculpture; drama; dance; music; etc, will be considered.

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Shaw at work in his garden hut



## ACADEMIC DEVELOPMENTS

## One day a week MSc for experienced engineers

by Robin McKie  
Science Correspondent

A part-time postgraduate course designed to meet the practical needs of civil engineers and engineering geologists has been announced by Surrey University. It will cover a two-year period, leading to an MSc degree, and will cater mainly for engineers who have had a few years' experience working for consulting firms, contractors or local authorities.

The geotechnical engineering course will involve attendance on one day a week and Professor N. Simons, head of the civil engineering department, said this would mean employers could release staff with only a minimum of disruption of work schedules. Students' progress will be monitored by a combination of continuous assessment covering laboratory work, field reports and essay work, and by examinations at the end of each year.

To qualify for the MSc degree, students will also be required to submit a dissertation in their second year. It is anticipated that most of these will be based on projects being carried out as part of normal work, and will therefore be of direct benefit to the students and their employers, Professor Simons said. The course begins next academic year.

An intensive training course for graduates in building production and the commercial requirements of civil engineering is to be launched at Lancaster University next academic year. The nine-month civil

engineering production course has the support of the Institution of Civil Engineers and aims to give graduates a thorough understanding of the size and structure of the industry, including productivity and the processes involved in completing projects.

Trent Polytechnic in Nottingham is to run the first British degree course in cater exclusively for plan engineers next academic year. The four-year sandwich course will include the study of the selection and installation of plant; contribution to its design; effective maintenance; cost, budgetary and progress systems; and the control of maintenance equipment. It is hoped the study will help graduates to assume management responsibilities early in their careers.

Britain's only modular BSc sandwich course in building has now been given full approval by the Council for National Academic Awards. The course, at Lancaster Polytechnic in Coventry, has been operating with the provisional approval of the CNAA over the past two years.

The CNAA has also recently given approval to the Polytechnic of the South Bank to run a new BSc degree in building surveying to begin next September. The four-year sandwich course, with the third year spent in an approved office, is designed to allow students to assess the structural and operational performance of buildings; undertake the design, administration and supervision of building projects; and the planning and management of the maintenance and repair of buildings.

## Child abuse covered in joint venture

by Patricia Santinelli

The growing problem of child abuse is the subject of an intensive course produced by the Open University and Newcastle upon Tyne Polytechnic in one of the first instances of such wide scale collaboration.

The idea came from Ms Constance Lee, principal lecturer in health studies at Newcastle Polytechnic and author of a reader and source book on child abuse which is one third of the course.

The other items are a study text by Ms Vida Carver, senior lecturer in the post experience unit, the Open University, and a teaching pack edited by Richard Fothergill, principal lecturer in the educational development unit at Newcastle. All three are designed to provide practical help and advice.

The course is designed for both independent and group study and is aimed at a multidisciplinary audience ranging from lecturers and students in the social sciences such as nurses, health visitors, teachers, policemen and lawyers.

Some of the most unusual items have been incorporated in a teaching pack which is designed as an additional aid, specifically for work in groups of eight to 20.

In addition a number of "horror" stories on child abuse culled from past and current newspaper articles are reprinted, completing a package made up of a variety of materials such as audio-cassettes and tapes slides all designed to help the user grasp his subject.

**Child Abuse**—A reader and Sourcebook edited by Constance Lee, £5.50; **Child Abuse**—A Study Text edited by Vida Carver, £4.95; **Child Abuse**—A Teaching Pack edited by Richard Fothergill, £20, are all available from bookshops or from the Open University, Educational Enterprises Ltd, 12 Colindale Avenue, London NW9 1DS, or from the Open University, Milton Keynes MK11 1BY.

## Sheffield introduces sandwich in food marketing

A part-time history MA, a BSc sandwich course in food marketing services and a postgraduate diploma in land administration, have been introduced by Sheffield City Poly.

The land administration diploma is to be taken from September by the polytechnic's department of urban and regional studies after five years of planning. Already given CNAA approval, it entails an unusual combination of two terms of part-time study and four terms full-time. Successful students will receive full exemption from the professional exams run by the Royal Institution of Chartered Surveyors.

The course is aimed at new graduates as well as those already working in surveying, valuing and estate management. The only limitation on entry is that all students must have spent at least one year studying economics at degree level.

Also starting in September is a new four-year sandwich course leading to a BSc in food marketing sciences, entailing the study of food product formulation, marketing and business studies. Case studies, project work and periods in industry will help relate academic study to practical work experience.

A part-time postgraduate degree in history is to be offered by the polytechnic's history department, specially designed to give local graduates a chance to do advanced research on local history.

The MA will include two years of evening courses concentrating on the variety of approaches to history and allowing specialist work with a 20,000-word dissertation. It is hoped that most of the dissertations will be related to the history of the region.

## OU and Schools Council in £240,000 project

by Maggie Richards

The Open University is to collaborate with the Schools Council on a £240,000 course of in-service training for teachers.

The course, on curriculum and assessment, is one of three new elements of in-service education for teachers announced by the OU this week. Both the Schools Council and the OU are to provide £120,000 to finance the course.

Mr Gordon Raitt, joint secretary of the Schools Council, hailed the venture as "a development of very great importance". He said the OU had been invited to take part in the project because it was already a major institution in in-service education and it was able to provide a national outlet for its work.

"It would have been difficult to work with all the colleges of education and university and polytechnic departments of teacher education," he added.

Professor John Merrett, chairman of the team which will be producing the new course, said the work would be classroom based, and teachers would be encouraged to use their own classes as a basis for study. Preparation of the new course will begin in September this year, and it is expected to be available in February, 1981.

## Economics for engineers

New four-year honours courses in engineering and metallurgy, both linked with the study of economics and management, are to be set up at the Open University. An important feature of both courses will involve organized periods of industrial work and a final-year project undertaken under supervision on a six-month industrial attachment will be used in assessing degree results.

The move to set up the new degrees follows a call from the University Grants Committee on the need for innovation in the education of engineers in preparation for careers in manufacturing industry. Oxford University was asked to submit proposals for a four-year undergraduate course "of very high quality with a pronounced orientation towards the manufacturing industry", and its plans have now been approved by the UGC.

The committee said it strongly favoured the Oxford courses and has assured the university of special support for the first four years, both for the initial cost and for the establishment of additional academic posts required.

Three economics papers will be included in both courses and will be the same as those for the honours school of engineering science and economics which is to continue. The Oxford Centre for Management Studies will be involved in teaching the management element.

The diploma is offered under the auspices of the Northern Regional Management Centre and will in due course be offered in other colleges.

## Statistics for postgraduates

Part of an Open University third level course is to be used to familiarize post-graduate students of social and economic history with quantitative skills.

The course, Historical Data and the Social Sciences, is designed to teach OU students to relate quantitative methods to social science theory and historical materials and problems.

Now the instructional element is to be used to impart a basic knowledge of quantitative skills to the post-graduate students. Their work will be assessed in the normal way, but they will be exempted from the need to complete the project work incorporated in the OU course.

The decision to use the OU course for post-graduate studies was taken by the "history committee" of the

It is intended that curriculum content and teaching methods, and their effects on pupils, will be examined from a number of aspects, including organization of the curriculum, the influence of language on the learning process, the personal growth of the pupil and methods of assessment.

The course will contain the usual OU television and radio components, accompanied by tutorial and counselling services. Video recording of the programmes will also be available from the OU.

The OU is also developing a course aimed at improving mathematical teaching. "Mathematics Across the Curriculum" is being planned for presentation in 1980 and is designed to show the relevance of mathematical thinking to everyday life.

One feature of the course will be to demonstrate that mathematical skills can be developed through the solving of practical problems.

The OU also announced the presentation of the fourth and final part of its diploma in reading which will be available next year.

Next year the first batch of 30 teachers will complete the diploma course, so far about 15,000 teachers have enrolled for the course, and are engaged on one of the three existing parts of the programme.

## Factory floor diploma

A new modular industrial relations diploma is being offered by the Open University. The diploma is designed to meet the needs of the industrial numbers in industry who are becoming involved in industrial relations issues.

Much training provision in this field is designed for a single audience, for example Diplomas in Management Studies for Managers and TQM courses for shop stewards. The Newcastle course is deliberately multi-level and seeks to provide a neutral, academic setting for the handling of current issues.

Entry is not constrained by academic requirements; an involvement in industrial relations is sufficient. The modular nature of the diploma enables it to be flexible in content.

It is also flexible in another respect in that while a student has to complete six modules of 24 hours each and a dissertation he can attend one or more of the self-contained modules if he has particular requirements to update his particular topic.

Modules so far offered have been employee participation, collective bargaining, recent labour legislation, trade unionism in the 1970s, bargaining techniques and industrial conflict.

The diploma is offered under the auspices of the Northern Regional Management Centre and will in due course be offered in other colleges.

## North American news

Last month the House of Commons in Ottawa held its first full debate on scientific research since 1976. As science is a federal responsibility in Canada, the infrequency with which Parliament discusses it could hardly be taken as a sure sign of the low priority the country's politicians have taken to research. That is, at least, the opinion of most Canadian scientists.

On the other hand, the optimistic view—and the one taken by geologists in High Wycombe—Edwards, who recently took charge of the university branch of the Ministry of State for Science and Technology (MOST)—is that politicians are at last beginning to take an interest in science, after many years of neglect.

Certainly, if you credit Canadian MPs with any kind of faith at all, the speeches were encouraging. There was Mr Joe Clark, leader of the opposition, proposing a "serious programme of technological research and development", with the proportion of the country's gross national product (GNP) devoted to research and development rising to 2.5 per cent by 1985.

That would be a staggering achievement, since Canada currently spends somewhere between 0.8 and 1.0 per cent of GNP on research and development—the lowest of any western industrial nation. (The research expenditures of the United Kingdom, United States and West Germany run close to 2.5 per cent of GNP.)

Indeed, as the Minister of State for Science and Technology, Mr Judd Buchanan, pointed out, the country's research and development spending would have to increase by 4,700 at a rate of 17 per cent a year in order to reach the opposition's 2.5 per cent goal.

Mr Buchanan agreed that "Canada is seriously lagging behind other industrial countries in its research and development effort", by hundreds of millions of dollars a year, and that Government and industry must make up the shortfall. But he did not accept any specific spending target, which Mr Clark's 2.5 per cent or the modest 1.5 per cent of GNP proposed in the recent report on Canadian science by a special Senate Committee (THES February 10).

The emphasis of the debate was very much on industrial rather than academic research, although Mr Clark, for all parties, urged substantial increases in support for university science. Mr David Orlikow, science spokesman of the New Democratic Party, said government spending on science research was an appalling 0.07 per cent of GNP—four times less than the West European average.

In real terms, the budgets of the three councils that distribute federal funds in university research have fallen steadily from 1969/70 to 1976/77—by 20 per cent or more according to some estimates.

A year ago, after an unprecedented lobbying effort by Canadian scientists, the Liberal government gave the Medical Research Council (MRC) and National Research Council (NRC) 13 per cent increases for 1977/78, but 1978/79 saw a 1978 budget, which became known last month, is only 7 per cent, close to the likely inflation rate.

While this may seem reasonable at a time when the Canadian government is operating under severe financial constraints, it looks pretty poor in comparison with the Carter Administration south of the border. President Carter has made basic research a national priority and is increasing its funding in the United States by 5 per cent a year in real terms (THES, January 27).

So the research gap between Canada and the United States continues to widen. Some Canadian scientists are terrified that the American expansion of basic science is going to leave their abject colleagues to American universities. "It is going to kill us," says Dr Louis Siminovitch, head of medical genetics at the University of Toronto, who is one of Canada's most politically aware as well as one of her most distinguished researchers.

Although Canadian scientists—led interestingly by the biologists—have become much more visible in the past few years, it is by no means clear that they are actually winning sympathy from the public. Both the science minister, Mr Buchanan (the fifth person to hold the job since it was created six years ago) and his parliamentary secretary Dr Frank McKelvey (a former client of Canada's oil and gas industry with a background in pure

After many years of neglect, Canadian politicians show signs of an awakening interest in science. Clive Cookson, North America correspondent, reports

## Research for industry leads Canada's science growth spurt



Mr Judd Buchanan

science made clear, in the House of Commons and in interviews afterwards with THE TIMES that industry rather than academic research is far and away their most important priority.

Clearly, however, if they do succeed in improving the dismal research and development performance of Canadian industry considerably, Mr John Shepherd, executive director of the government's science advisory body, the Science Council of Canada, says more industrial research should be a major stimulus to universities.

"The other way in which universities interact with industry is to produce highly trained manpower for industry", adds Dr Jorge Medinaceli, a senior adviser at the Science Council. "Canada is very little demand from industry for scientific manpower, which leads to degeneration as universities produce people only for their own use".

So it seems to be generally accepted within government circles that the regeneration of Canadian research has to start with Canadian industry. And everyone knows the fundamental problem to be overcome—foreign ownership of the country's biggest firms.

Dr McKelvey quotes from a study which shows that 572 of the 1,000 biggest Canadian companies are

foreign—mostly American—controlled. "There is absolutely no incentive for foreign multinationals to do research and development in this country", he says.

So far, Canadian governments have been "gutless" in their approach to this issue, Dr McKelvey believes. He calls the attitudes of the big three American car makers, for example, "irresponsible and totally unacceptable". Canada represents 10 per cent of their North American market, their Detroit base is so close to the Canadian border, yet they do absolutely no research and development in the country, he complains.

In the Commons debate, similar sentiments echoed from all sides of the House, and the opposition motion was amended to "require Canadian subsidiaries of foreign-based corporations to devote a specific portion to Canadian-based research and development expenditures, in order to break the branch-plant nature of our manufacturing industry." (Every Canadian one speaks to about science laments the country's "branch-plant" mentality.)

Currently the research development activities of most Canadian subsidiaries extend no further than adapting the parent company's technology to Canadian tastes, or, in the words of Progressive Conservative leader Mr Joe Clark, ensuring "that our Rice Krispies snap, crackle and pop in both official languages".

The development of "technological sovereignty" has become a major theme of Science Council advice and reports. It means not only making foreign owned companies do research in Canada, but also encouraging the development of Canadian owned and run centres of industrial excellence.

According to the council, the Government must give a strong stimulus here to a small number of "core firms" in a few selected fields—for example telecommunications, where the Canadian firm Northern Telecom is already a world leader, and certain areas of transport, energy and ocean technology. The council's executive director, Mr Shepherd, emphasizes that federal and provincial govern-



Mr Joe Clark

ments must overcome the traditional Canadian fear of government intervention, and deliberately favour Canadian owned firms in their procurement policies.

Moves abroad, particularly in the United States, towards "technological protectionism" make it particularly urgent for Canada to develop its own technological sovereignty, Mr Shepherd says. "We have not to develop centres of excellence for Canada," he says. "Historically you can demonstrate that several of our best researchers have come from small universities."

Mr Buchanan (who is, incidentally, Minister for Public Works as well for Science) Minister says: "We have got to develop centres of excellence but not to a degree that puts you into conflict with the regionalization of our country." In other words, any centres of excellence would have to be distributed fairly across the 10 provinces.

The allocation of this year's NRC strategic grants was deliberately made without any regard to regional distribution. As a result, although 81 grants were made, 17 universities out of 40, and four provinces out of 10 received none—and the NRC received a lot of complaints.

Although research is a federal responsibility, two provinces, Ontario and Quebec, are now developing their own science policies. The upsurge of scientific interests in Quebec has been dramatic since the 1960s, science and technology were particularly weak there and most universities traditionally gave higher priority to teaching than to research.

Since then, the NRC has been pumping extra funds into Quebec universities, through a regional development fund, and the provincial government has started its own research programme. The latter is now running at about \$10m a year, although Quebec still has fewer researchers per head of population than Canada as a whole. The Université de Sherbrooke, for example, received \$1.5m in research funds from the Quebec government in 1976/77, compared to only \$800,000 in 1974/75.

Neither Dr Julien nor most Canadian scientists seem to think the creation of a new Natural Sciences and Engineering Research Council is going to make much difference to Canadian research. If you have a government that is fundamentally not interested in science, the scientists say, the precise shape of the granting councils is not going to make much difference.

Unfortunately for the scientists who claim the government is not interested in them, it appears that none of them is interested in government. You can point to the fact that only one MP out of 260 has a background in the natural sciences as evidence of the scientific ignorance of Parliament; but you can also use it to show that scientists cannot be bothered with politics.

Further evidence of their lack of interest in public life is provided by the Government's failure to find anyone to head the Medical Research Council. The NRC has been without a president since last June and the post is known to have been offered to at least seven scientists, all of whom turned it down. The appointment of a president for the NRC is also said to have been delayed for lack of a suitable scientist to take the job.

Yet, if the government gave up and appointed a civil servant, the scientists would ask furiously why one of their number was not given the job.

Despite the evident popularity of the strategic grant, their funding will not be raised beyond \$3.5m in 1978/79, compared to about \$70m for ordinary grants. Dr Gilles Julien, director of the NRC office of grants and scholarships, says he does not expect the programme to grow at the expense of the council's other grants.

With his help, Mr Spurgeon former Toronto Globe and Mail science correspondent and more recently publications director of the International Development Research Centre in Ottawa, hopes for a 30,000 plus circulation.

grants" programme for research in three areas of national concern: energy, oceanography and environmental toxicology.

The programme's funding for 1977/78 was only \$2.4m, with eligibility limited to scientists already in receipt of an NRC grant. The response amazed NRC staff's applications for the new grants totalled \$18m, more than seven times the available budget. Funds requested under the normal grants programme are usually about twice the money available.

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However it is rather difficult for him, or anyone else, to talk with any certainty about future policy for Canada's research councils are on the point of being re-organized, under which the office of grants and scholarships will be detached from the NRC and made into a separate Natural Sciences and Engineering Research Council; the NRC will then be responsible only for government research laboratories.

Dr Julien is wary of arguments that the NRC should, as a matter of policy, support centres of excellence. "We have to ensure that we have a broad base of scientists with which to build a scientific capability for Canada," he says. "Historically you can demonstrate that several of our best researchers have come from small universities."

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One obstacle to the formation of a CAAS is the existence of two established bodies that already per-

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# Flexible grading can break the promotion logjam

After pay, promotion is the chief talking point among university staff. What is to happen in the future? What is to happen in the future? What is to happen in the future?

The latest attempt to solve the problem comes in an article by Wendy Hirsch and Roger Murgan from Cambridge engineering department, published in *Higher Education*, the international journal of higher education and educational planning. The authors have used a manpower planning model to look at the likely effects of slower university growth on the career prospects of university staff. They examine the policies suggested to ease the position—lowering the age of retirement, changing tenure arrangements and encouraging secondment—and come up with their own preferred solution.

They say that little has been done to see how effectively these ideas would contribute towards a solution to the promotion blockage. Using 1971 as the base year for the study they look at the career prospects of university staff at that date. They show that a lecturer has a 63 per cent chance of being promoted to a senior post. This would take place at an average age of 39. He also had a 30 per cent chance of becoming a professor by the time he reached an average age of 43. At the time 11 per cent of staff were professors and just over 30 per cent in one of the other two senior grades.

The survey also looked at promotion chances in three different subjects: mechanical engineering, mathematics and French on the grounds that staff prospects in different subjects may vary. In 1971 34.8 per cent of staff in mechanical engineering had senior jobs, just below the minimum of 35 per cent. In mathematics and French the proportion was much further below the limit. French lecturers had a better chance of promotion though they had to wait longer for it.

Turning to promotion prospects up to 1996, the study says that, assuming there is 2 per cent growth in the universities, ages of promotion will go up by about four years in mechanical engineering and by three in mathematics and French. In mechanical engineering it will be much harder at first for staff chances will improve in the 1980s. In mathematics, however, prospects are bleak, with the long-term ages of promotion rising by six years. Staff in French will fare best of all with a slight improvement in the short term and general stability.

Even if the growth rate for all staff went up from 2 to 3 per cent there would still be a three-year increase in promotion ages. Growth would need to be 5 per cent a year from 1976 to keep promotion chances at the same level as they were in 1971. "If therefore seems unlikely that the promotion blockage will disappear through natural growth, at least in the foreseeable future,"

The study draws attention to the particularly difficult position of mathematicians. "Unless mathematics manages to achieve a higher rate of growth than other subjects or we permanently increase the proportion of senior posts, mathematicians will have to resign themselves to being promoted at ages similar to those found in other subjects."

One way of tackling the blockage as a whole would be to change the age distribution in some way by increasing wages or different recruitment policies. The authors say that such changes will not help much with short-term problems. Wastage could be increased by early retirement or by encouraging mid-career wastage or by reducing the number of tenured posts.

The study aims to discover what the effect of early retirement would be. It says that if all staff were to retire at 55 years of age, promotion would be faster in 1971. "Obviously a severe enough retirement policy will solve a promotion problem of this kind but it seems very unlikely that compulsory retirement at 55 would be acceptable to university staff. Even if it

was used it would result in the loss of large numbers of experienced academics and no doubt cost a great deal of money to implement." Retirement at 60 would not help much.

Next, the authors look at a limited tenure policy, choosing a particularly drastic one under which staff are assessed at 30, only half of them receiving permanent posts. They conclude: "Even this drastic on job security has a negligible effect on the promotion problem, merely postponing the time at which promotion ages are at their highest without reducing these ages by even one year." The staff causing the blockage are, of course, over 30.

The study also casts doubts on the policy of encouraging staff to take secondment in mid-career in industry or the civil service with a view to returning to the university after five years or leaving for good. To keep these promotion prospects in line with those in 1971, wastage among lecturers aged between 30 and 50 would have to increase to two and a half times its natural level. Under a voluntary scheme, the numbers leaving would do very little to solve the problem.

If all the schemes which have been mentioned must be cast aside, what should replace them? The study suggests that the sizes of the departments should be flexible, that they should be allowed to change according to changes in the age distribution of university staff, while the ages and chances of promotion stayed the same.

Judith Jo

## The City and Guilds passes the public test over 100 years

Patricia Santinelli reports on the centenary of an institute that has awarded certificates to five million students

An economic crisis, industrial lock-out, unemployment and the loss of contracts on the world market were the factors that led to the creation of the City and Guilds of London Institute whose centenary takes place this year.

In 1875 Mr Gladstone challenged leaders of British commerce and industry, represented by the Corporation of London and the members of the City Livery Companies to reverse this decline.

Both responded and following lengthy negotiations with the City Council, it was agreed that a new body should be set up to promote technical education. In 1878 the City and Guilds of London Institute for the Advancement of Technical Education was formally constituted, and in 1900 was granted a Royal Charter.

Mr Harry Knutton, director-general of the institute, said the creation had been a familiar story. "There had been a long standing need for technical education, but the Government had no money available to make this a reality."

"Both the corporation and the livery companies put up a lot of money to set up the present City and Guilds. The first thing they did was to hire a teacher and establish the first technical school, one teacher and a classroom in the City of London," he said.

By 1879, the institute was ready to hold its first examinations, having taken on from the Society of Arts, now the Royal Society of Arts, the administration of 16 technical subjects which included cotton, paper, silk and steel manufacture, carriage building, telegraphy and photography.

However, standards and examinations needed to be supported by teaching, and in 1882, the institute opened the Finsbury Technical College which provided both evening and day-time courses for apprentices and day-time courses for students entering civil, mechanical and electrical industries at professional or other levels.

Earlier in 1879 the institute had already set up the South London Technical Art School, later to be known as the City and Guilds Art School which provided both evening and day-time classes in subjects such as printing, drawing, lettering, and engraving. This

school was transferred to an independent charitable trust company in 1971, while Finsbury College closed in 1926 following the expansion of university education for professional engineers.

During 1879-1900 the range and number of subjects for which the institute made provision grew steadily to cover most branches of industry with emphasis on engineering, construction and science industries. By 1919 the number of candidates for City and Guilds certificates in technical subjects had grown to 40,000. In the 1930s, the institute's policy saw a radical re-orientation mainly brought on by the Education Act of 1944 which led to greatly expanded investment in technical colleges.

A new type of student now emerged, the apprentice and training on day-release and sandwich courses by his employer, for whom a much more specific syllabus and examination had to be devised. As construction and science industries grew, the number of candidates for City and Guilds certificates in technical subjects had grown to 40,000. In the 1930s, the institute's policy saw a radical re-orientation mainly brought on by the Education Act of 1944 which led to greatly expanded investment in technical colleges.

system of the country by its performance in the eyes of the public over the past 100 years. We have done this without academic education support from Government, but of course we rely on the state education system to produce candidates for our awards and of course the state pays many of our students' fees, but because we do not rely on government funding we do not have more freedom than bodies like TFC and BEC," he said.

The institute's major revenue is drawn from examination fees which last year included sales of publications amounted to £2,915,730. In 1977 the institute provided 1,720 examinations based on its schemes in 291 different subjects divided under 19 broad industrial groupings such as engineering, vehicles, construction, catering and agriculture. In addition to educational schemes the institute provides testing services for intellectual and manual skills on a consultancy basis to many organisations such as the National House Builders Association.

Explaining the institute's basic philosophy, Mr Knutton said that its aim was to provide what industry and the world of work wanted. "And from the continuous amount of voluntary help given to us by industry, by employers, and trade associations as well as trade unions, we do get a very good idea of what industry wants from its technical people," he said.

Foundation courses introduced by the institute two years ago have been instrumental in ensuring that young people do emerge from schools with these very qualifications. The courses were developed because City and Guilds recognized that current academic education was not creating the "real" needs of the country. They are based on a scheme of general education centred on the world of work designed to ensure that young people can see the relevance of what they are learning, as for example applying mathematics to construction problems.

Within the institute consultation is achieved through 19 specialist advisory committees and panels each covering a broad sector of industrial activity whose primary task is to establish and keep under review those further education and training needs which can be met through a network of examination subjects and development committees whose members are appointed after consultation with national and regional bodies. So that at any one time upwards of 10,000 individuals are involved in the process of establishing national standards and in the development of vocational training and education.

Other revenue amounted last year to well over £1 million came from provision of services to other educational bodies such as TFC and BEC and the 12 joint committees for ordinary and higher national certificates and diplomas.

The institute has achieved it, success as a national examining body through a continuing process of consultation with industry, both employers and trade unions, training agencies, the education service and government departments.

The latest timetable for the withdrawal of the institute schemes in technician level examinations indicate that altogether 70 examinations will have been phased out by 1984 provided that the introduction of new schemes by TFC goes according to plan. By 1979 it is expected that 21 examinations will have been withdrawn.

However the institute will remain one of the largest national examining bodies in further education in the area of craft studies. Last year alone there were some 250,000 craft candidates. And over the last century eight million candidates have sat Guilds examinations and five million have been awarded certificates.

Speaking about this, Mr Harry Knutton said that the institute had earned its place in the education system of the country.

Boys examine a car engine used as a teaching aid in a display at the City and Guilds Institute Centenary Exhibition at Warford College.

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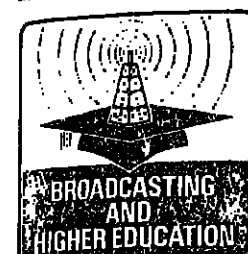
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Much of the argument about the use of television in education is focused on its cost. In general, the assumption is made that by television we must mean broadcast material or, if closed circuit, then at least something like the Tower of London. Education Authority's Channel 90—now to close down.

But in the last year I have been using CCTV cheaply and efficiently for anything up to 12 hours a week, specifically in teaching interviews to journalists. However, it has become more apparent that the system could be extended to help, for instance, social scientists looking at the processes involved in social interaction and, more mundanely, those researchers who need to learn more about interviewing for field studies.

ADVISE, Audio-visual Interview simulation exercises, consists of two key elements: the television equipment and the scripts used in the video-taped interviews. The equipment is what the LEA calls a Pack "C". That is, two mobile—dual-mounted—cameras connected by one fixed camera; the latter to provide long shots of the set for scene setting, variety in output, and, significantly, for showing relative positions of interviewer and interviewee.

The cameras are connected to a simple control of monitor and mixer: from there to an output monitor and a videotape recorder. Sound is fed directly into the VTR. ADVISE is relatively mobile—certainly within the confines of the college. Normally it is used in a small studio sufficiently equipped with ceiling mounted stage lights to provide a small area for any set required.

Before describing the scripts it is worth illuminating the problems which led to the birth of ADVISE. As a journalist training becomes more respectable and accepted, more committed to teaching it finds there are a number of areas where, using

it has taken more than 50 years; but the pleasure of the radio journalist, the willing amateur learning his profession by accident, is at last on the way out. In other countries, notably the United States, and to a lesser degree, Australia, radio journalism is now a profession in its own right, and there is widespread recognition academically and in the industry of the vital role this broad of communicator plays in the community.

There, the newspaper journalist, or the radio announcer, two good to sack, does not move into radio journalism because he or she has a good voice or because they want a change. Especially in the United States, radio journalism has a structured academic basis with degrees, post-graduate degrees and proper programmes of research.

Here at last, we are realizing—even in the Independent Broadcasting Authority—that radio journalism is a profession in its own right. At last broadcasting and academic institutions are realizing that there is a vast difference between writing for print and writing for radio. And they are beginning to see what a difference there is between interviewing for a newspaper article or radio news or magazine programme.

The techniques are totally different: writing for one is literary and for the other conversational. Interviewing for one is information; for the other a performance, a mini-drama in its own right. It is as simple as that.

Not everyone understands or agrees yet. Even some journalists still believe that journalism is journalism and if you can do one you can do the other. They believe and teach that the techniques are the same. Some even equate successes with scripts for radio and television in general, and say how easy it is to be a radio journalist. Such arguments are obviously absurd when one is faced with specialist pieces published in specialist magazines or papers, says he is a print journalist?

Radio is specific and difficult to communicate in, and it assumes a whole science of verbal communication: a psychology all its own.

There are some journalism or communication courses in this country in which radio and television journalism is taught as a small part of the course. But this approach confuses the student, because what is wanted is a specific approach to the more journalistic rather than something specifically vocational-orientated. Students of print journalism will be taught one thing on matters of style; radio journalism students will often be taught the exact opposite. There is, that, much difference between the two professions.

The Royal Commission on the Press, and the Annan Committee into Broadcasting, both looked at training, although the Annan Committee thought fit to leave the subject to the Royal Commission on the Press. It did, however, feel that "the broadcasting organizations still need to train journalists to meet their special needs" (p. 438).

The Royal Commission called for a more comprehensive approach to the training of journalists in press and broadcasting. The growth of television and radio journalism and the consequent changes to the character and functions of the press in recent years have profound implications for journalism and for training. "It would be impossible to move at once to a common approach to training for broadcast, radio and the press. Nevertheless our view is that such an approach is desirable" (Royal Commission on the Press, p. 176, 18, 19).

The BBC has of course a large training scheme for would-be radio journalists; the IBA has nothing at all for radio or television, and IBA has no plans for any. It is therefore fitting that the institute should continue during the second hundred years to play a leading role in vocational preparation.

Tim Robinson, top, and John Herbert describe new approaches in journalism courses

## Ask (the right way) and it shall be given

standard teaching methods, little progress can be made. It is, after all, the essence of journalism that it is a non-routine activity additionally characterized by alternations between periods with little happenings and those where too much happens. One prime requisite for a journalist is, then, a cool head at all times, and an ability to absorb complex information at speed, prior to its rapid transmission to source.

The gathering of raw information often comes down to interviewing people conducted for them, particularly for information at their own expense. The "expert" interview is a corollary of the pressure under which journalists often work: it saves time and effort otherwise required. There are, of course, other interview types. These range from the seemingly banal (a couple celebrating their golden wedding anniversary) to the bizarre (a talking dog, the survivors of a hijack).

But, how to teach the interview realistically? How to put on the dual-mounted cameras and the fixed camera? How to get the interviewee to give information quickly but not abruptly; most of all how to assess how a student has fared and to show where he has gone wrong?

Using ADVISE an answer has been found. The artificiality of the simulation is not denied. Indeed it is emphasized. It is to be used in a small studio sufficiently equipped with ceiling mounted stage lights to provide a small area for any set required.

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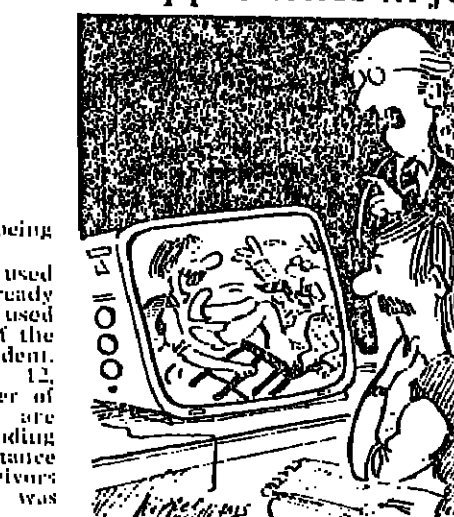
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"Ah, now this is where things went wrong—you tipped up his chair for the hell of it."

quite literally a matter of guesswork. This guessing—or filling in gaps by inference, to be strictly accurate—can be demonstrated by using the playback of the original interview in conjunction with the written story.

Language is a vital component of success or failure. I suppose the middle class interviewer talking to a working class subject and failing to hear the words he or she uses to the subject, like "college" or "occupation".

Goffman's discussion of the way in which roles change can also help our understanding of what kind of negotiation is taking place in an interview. The interviewer needs authority but not too much; and sympathy of the most elementary kind is often lacking, as are every-day conversational skills. From my study of the results of hundreds of interviews using ADVISE I know these things really matter. They can destroy an interview and undermine the status of the information which emerges.

Finally, analysis has shown frequently that what social psychologists tell us about posture and eye contact is true: while deliberately not emphasizing how they may be used, since to be conscious of them is to wreck any spontaneity, it can

be useful for an interviewer to see how particular body movements, especially if habitual, can upset those being interviewed as well as betray instances of nervousness.

The analyses carried out after the interviews are exhaustive for some of the reasons cited above. And because students may see them time and again, often seeing points missed in the first showings.

The system I have been discussing is incomplete. Yet already there are indications that it could be used in a number of circumstances outside the immediate and instrumental benefit of training journalists for interview. The most obvious extension is in training for social survey interview.

I have often been appalled at the lack of knowledge and instruction in basic techniques among survey interviewers. It would be interesting to speculate how much false or incomplete information has been gathered over the years because interviewers failed to negotiate with their subjects just what was under discussion; or because they upset or annoyed their subjects.

Closed circuit television is of course used for interview training already—particularly in getting potential job applicants to see how to manipulate their prospective employers. And there's the rub: manipulation. ADVISE does not "teach" manipulation. It has been used from the start to gain insight into how this complex and consistently different social interaction called the interview takes place.

The development of ADVISE outside the strict instrumentalities of either journalism interviewing or social survey interviewing depends on the time available for analysis, and on the right level of cooperation between the work being done at the London College of Printing and elsewhere. I have so far not been aware of any similar work, yet I am sure this is merely a misperception.

I would be interested, therefore, in contacting anyone involved in CCTV work of this kind in the hope that those developments I see for ADVISE could be integrated with work in other establishments.

The author is lecturer in journalism at the London College of Printing.

head of school, Mr Morris, and the course tutor, Fred Hunter to start such a revolutionary and experimental course which runs in both full and part-time strands. They need not have worried about the student response. The part-time course could have been filled three times over from the hundreds of applications even before it started.

The unusual thing—apart from the student response—the interest being shown by some of the independent radio stations, particularly the London news station LBC.

It is a growing, perhaps, of this station's growing professionalism and news expertise that has led to co-operation in any way with the college. With the help of LBC and its programme controller, Keith Belcher, the full-time students are being given generous access to its newsroom headquarters. They are being allowed to see the experience of how a local station works and most important of all, they are being given practical experience. Already they are having their interviews broadcast. Later in the year they will be running London's first ever programme for students by students.

All this has happened in the space of a few months, despite economic worries, education cuts, and staff shortages. It is happening despite a staggering lack of facilities—no teleprinter copy to transform into radio copy; no studio; no ready access even to a telephone to enable the students to make arrangements for interviews. Such is the enthusiasm that full-time students are doing this out of their own money.

After this initial success, and the hard work of those involved, the next step, I hope, will be recognition from the BBC and IBA and the commercial stations themselves, with perhaps subsidies. Perhaps some sort of exchange scheme could be implemented, whereby local stations would send their recruits for a short course of two or three weeks, while they take the place of a replacement student from the course.

The author has written several books on broadcasting. He is at present visiting lecturer in radio journalism at London College of Printing.

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# Is a national agreement the way for policy studies?

The 'British Brookings' idea at times seems doomed never to reach fulfillment. Andrew Broadbent looks at the prospects

We seem to be at the end of the beginning of the debate on a new United Kingdom Institute for policy studies. The Ford Foundation has pronounced itself interested, but sceptical about the depth of commitment to the United Kingdom itself, and will not invest any cash until there is demonstrated national support for such an institution.

The Social Science Research Council announced last summer that it would commit up to £2m over 10 years to provide the start-up funds up to £3m were also forthcoming. This decision has been criticized by existing policy institutes such as the Royal Institute for International Affairs. The recent rather hasty marriage between the Centre for Economic Planning and the Centre for Studies in Social Policy also seems designed to bolster the defences of the existing institutes, fearful that any new body would merely drain off their existing sources of funds.

The policy studies idea has been tossed around for nearly two years, since Ralph Dahrendorf's original proposal. The pros and cons have been turned over and over, a series of cautious moves have been made by existing vested interests, delegations have been to New York. Yet the Government seems lukewarm and the pieces on the chessboard now seem to be consolidating their existing positions—and the result—stalemate.

It is time to take stock, to ask what the reasons are for the stalemate and to either accept that there is just too much resistance to the idea and to throw it into the dustbin or else to see whether or not there is a new way to make progress.

Firstly, the discussions have failed to produce a clear concept of what an institute of policy studies would actually do, how it would operate, how it would differ from the existing institutions who already undertake such work (NIESR, IER, CSES, RIIA, CES, etc.) and the various studies. There has been no clear rationale presented to potential funders, or to those decision makers and others who might be expected to benefit from its work.

By itself, a mere commitment of money, people and brains is not enough. The existing institutes already have these in some measure, although they argue the case for more. The first thing to ask is what their findings are, and why they have not had more impact on British life, and on policies to be taken.

But, they have failed to research the fundamental problems of our society—the really big issues. They have not sought to look squarely at the basic causes of our economic decline, and at the possibilities and limits of a democratic government's ability to put things right. They have concentrated largely on the side issues, on the peripheral questions—on symptoms rather than on causes.

Their work is often very detailed, ferreting out a new inner city declining area, or another social subgroup suffering yet another form of poverty, or finding yet another method of forecasting the short-term effect of a tax cut. But there is no way this kind of research can be individual aspects and symptoms, even though it has often influenced individual policies, is going to throw up bright new solutions to our basic problems—we need to know what causes inner city decay, social deprivation and economic inequality.

But overall, it is fair to say that the institutes have acted more as detached observers, criticizing or commenting from the sidelines, having little involvement with the day-to-day infighting in the messy real world of politics, and lobbying by entrenched interests.

Of course there are good reasons for the shortcomings of the existing institutes—it is not necessarily their own fault—the main one is politics. Fundamental problems lead to fundamental choices. If piecemeal reform cannot solve our problems, then we are faced with bigger changes and this means harsh political choices, a tipping of the balance of power in society in favour of one class or another.

The promulgators of the various versions of the Brookings idea have generally failed to grasp this. Neither "policy" nor "policy studies" can ultimately replace politics—"policy" is something we might all agree on, "politics" means that there are serious disagreements about basic choices. Research can only inform or spell out the implications of political choices, there is no way it can take the decision out of the political arena. And yet there is ample scope for this much more limited job to be done more effectively than it has been done so far.

There is a case for making any new institute a completely different animal from the existing ones. Otherwise, if it is to operate more or less in the same mould as those already established, then any new money might as well be invested directly in them—and this seems to be what the Association of Social Research Organizations (ASRO) is thinking of.

Suppose, however, that a new institute were established, not only by the research industry itself, but by the major organized decision-making groups in society—those whose very actions and activities actually help to determine policy? Such an institute could start with a prior commitment by its founders not only to actively encourage its work but (more importantly) to promote experiments in trying out new policy ideas in practice.

Who are the major organized decision-making groups? Clearly we have to begin with the Government, the CBI and the TUC—representing the "community", organized business and organized labour. They would make a formal agreement and a written constitution, to which the independent research funding bodies would also be a party. There could also be specific provision for other organized groups, especially political parties, to invest and participate in the institute and in the agreement.

The core of its research programme would be "The Reform of British Society—its possibilities and limits". Its constitution would charge the institute with a duty to explore fundamental alternatives and their implications from a wide range of theoretical perspectives. Monetarism, Keynesianism, will still be with us—as will Fabianism, social and radical Toryism and political economy. All these could play a role in the institute's work. At one time it might be investigating the implications of a free market solution to a problem, or whether a social-collectivist option.

Its constitution would also charge the institute to look at single main themes (to avoid fragmentation into sub-institutes talking only to themselves) and to explore, via direct experiments with the major interest groups the practical application of policy options.

Would this be a recipe for paralysis of ideas, since business, unions and Government so often disagree? The independent research funds would be one safeguard against this, the other would be that each party to the agreement would have the right to commission some research on its own policy. As a *quid pro quo*, it would recognise the right of the institute to pursue its policy options as it saw fit, the safeguard being that the constitution would bar the institute from becoming a

platform for only one type of policy, so that it could not be captured by any single interest group.

Isn't the National Economic Development Office doing this already? Not really. With its large injection of independent research money, the new body could take a much broader wider ranging and more fundamental searching investigation of reform in Britain, than NEDO is capable of at present.

Is not this extending the Corporate State into Academia? Again no. There would still be a diversity of research centres, inside and outside the universities—which of course will retain their independence. Indeed, the institute could take some of the pressure off the other organizations to be immediately "relevant". Much of the money would be "new" money raised from the three main participants.

Both those who do believe that significant reforms can be brought about by agreement and consent, and those who see fundamental and ultimately irreconcilable conflicts and contradictions in our society, might see some merit in an institute which would help to put this to the test.

The author is assistant director of the Centre for Environmental Studies and writes in a personal capacity.

## Guido Almansi reflects on the Rowlandson exhibition at the Royal Academy



Left: "A Sporting Cove" (circa 1815-20). Right: "A Group of Fine Bulls About to Fight" (circa 1810).

## An English master of the art of voyeurism

In the archival mind of the artist, an artist is the son of all his surviving works hence he is incomprehensible because an *oeuvre* is the outcome of ever-changing moods, influences, motivations. In his personal experience an artist is the son of what he was able to do, and what he wanted to do, and what other people wanted him to do, and of what he thought other people wanted him to do.

In the mind of the general public, however, an artist is above all a label, a trademark which advertises a range of contents and a brand of aesthetic or emotional response. What is confused in history and chaotic in life becomes clear in popular opinion. Fame amplifies and clarifies every problem. If you don't understand a painter, make him famous: his works will bounce back at you with a proper label.

It remains to be seen whether the function of public institutions, museums or galleries, is to make sense of an artist's work, or to make sense of the world, or to make sense of the artist's work, or to make sense of the world, or to make sense of the artist's work, or to make sense of the world.

In spite of its slightly pedantic presentation, the Royal Academy exhibition of more than 100 Rowlandson drawings from the Paul Mellon Collection at Yale is not only a kind of show that confirms prejudices. Most visitors in fact will emerge from the experience with an altered view of this painter.

In popular lore Rowlandson's label carries the indication of a political caricaturist, a member of the grotesque with particular inclination for eminent and eye-catching pantheists (the most remarkable pantheists of Western art in fact).

of an artist's work, so that it be real and apart in swift drawings of even vulgar cupulations (see *The Empress of Russia and her Guards*).

At the Royal Academy Rowlandson is a bit of everything, but above all an exceptional calligrapher of land and cityscapes. In the country scenes the line has an almost natural fluency which spreads over the folio in continuous undulations. At times these are lacerant in the circulations which form a group, a cluster, a wood.

Although the erotic Rowlandson is hardly present in the 400 drawings of the Paul Mellon Collection and is therefore absent at the Academy, yet eroticism, banned from the subject matter, re-emerges elsewhere.

In "The Picnic" (of 1798: the same title is in other drawings from the Huntington Collection of San Marino, California) Rowlandson exploits the erotic suggestiveness of the vegetal world in a manner which goes beyond the tremulousness of the vegetation of the *Empress of Russia*. The picture is a study in the play of light and shadow, of the play of the body and the play of the mind, of the play of the body and the play of the mind.

"each birch is burning and sighing for another birch". In the urban scenes Rowlandson plays on contrasting forms (as indicated by Ronald Paulson in his monograph): fat man vs lean man, pretty young thing vs gawky old fellow, the cringing shape of the anxious author vs the solid stance of the condescending bourgeois (in the best drawing at the Spinks Gallery exhibition which runs parallel to the one at the Academy).

Often we have a contrast between the dense line of the inquisitive and agitated crowd and the disturbing vacancy around the object of their curiosity. The unturned tables in the hands of the player magazines, the eager eyes of the other gamblers who look at it with the intensity of Apostles at the Last Supper, watching the hands of the Saviour breaking the bread ("The Gaming Table" of 1801).

In "The Picnic" (of 1798: the same title is in other drawings from the Huntington Collection of San Marino, California) Rowlandson exploits the erotic suggestiveness of the vegetal world in a manner which goes beyond the tremulousness of the vegetation of the *Empress of Russia*. The picture is a study in the play of light and shadow, of the play of the body and the play of the mind, of the play of the body and the play of the mind.

Whether chaotic or erotic, idyllic or parodic, the world of Rowlandson is centred upon rhetorical scenes, spectacles, shows: it is upon voyeurism. There are only two types of scenes: the world of the *Empress of Russia*, and the world of the *Empress of Russia*. The picture is a study in the play of light and shadow, of the play of the body and the play of the mind, of the play of the body and the play of the mind.

The three old connoisseurs in the world of this title (1790-95) survey with excessive interest a picture within the picture which, needless to say, is "Susanah and the Elders". It is, however, an unusual Susanah since she is not tied upon a bed, but is seen in a more active pose, and is surrounded by two elderly gentlemen, roughly sketched at the far end of the "painted" canvas. In fact they are so roughly outlined the face of the old man on the left suggests the profile of a third old gentleman, thus doubling the aesthetic curiosity of the three old "Connoisseurs" with the erotic curiosity of three filthy biblical lechers.

In the meantime in the left corner of the drawing a young painter waits for his naked Susanah to cross the barrier of her aesthetic purview and fall into his arms after the reciprocal elimination of the two tris of voyeurs. The curator informs us that Rowlandson owned several engravings of "Susanah and the Elders" including some prints after Rembrandt.

In "The Connoisseurs" as in other similar drawings in the Huntington Collection, we have therefore a *mise en abyme* which multiplies the display of art and sex in a special play. In the arc drawings which Rowlandson prepared for George IV's collection at Windsor Castle voyeurism is at its purest, that is an examination of sexual organs, with the watchers stretching their necks and pointing their forefingers.

In the drawings at the Royal Academy the objects of our voyeuristic curiosity are more varied. In one case—"Flowing at the Royal Academy" of 1812—we become self-voyeurs ugly, fat Marquisesses looking at one own bugles in the mirror. The author is professor of comparative literature in the department of English and American studies at the University of East Anglia.

## Polytechnics continued

### LANCHESTER

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Further particulars and application forms, which should be returned within 14 days of the appearance of this advertisement, are obtainable from:

The Registrar (Applications), Trinity and All Saints' Colleges, Howarth Lane, Harrogate, Leeds LS18 5HD.

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# BOOKS

## Man, the thinking animal

**Descartes: the project of Pure Enquiry**  
by Bernard Williams  
Harvester Wheatsheaf, £8.50 and Penguin, £1.50  
ISBN 0 855 27753 X and 0 1402 2006 2

Sixteen years ago I was invited by a publisher to write a textbook on Descartes. I was disinclined to do so. "Why do you want to write about Descartes?" I said to a friend who was a senior philosopher. "He writes well enough, but you could put his main ideas on the back of a postcard, and they are all wrong. He would not repay the effort of working through his writings." "If you really think that," was the reply, "you should write the book to cure yourself of thinking it."

I took the advice, and it had the predicted effect. Reading and rereading Descartes's works and his replies to objectors, and his extensive correspondence made me realize that beneath the smooth, urbane and almost naive surface of the prose of the *Discours* and the *Meditations* there lay an intellectual structure of incomparable originality, depth, and power. Descartes had the gift of presenting difficult and momentous philosophical doctrines so elegantly they appeared fully intelligible on first reading; yet his slim volumes still provide matter for reflection to the most advanced specialists. Time and again the twentieth-century critic of Descartes discovers that the details of his criticism had been anticipated and turned aside in what the first reading appeared to be a joking interruption or parenthetical ornament to the text.

Descartes prided himself that his works could be read "just like novels" and it is indeed true that you could put his main ideas on the back of a postcard. To do so you would need just two sentences: man is a thinking mind; matter is extension in motion. Everything in Descartes's system is to be explained in terms of this dualism of mind and matter. It is indeed to Descartes that we owe it that we think of mind and matter as the two great mutually exclusive and mutually exhaustive divisions of the universe we inhabit.

For Descartes, man is a thinking animal. In the Aristotelian philosophy dominant in the Middle Ages man is essentially a composite of soul and body; disembodied existence is a malformed and incomplete human existence. For Descartes, man's whole essence is mind, in the present life our minds are intimately united with our bodies, but it is not our bodies that make us what we really are. Moreover, mind is conceived in a new way. For Descartes, the essence of mind is not intelligence, but consciousness: awareness of one's thoughts and sensations and their objects. Man is the only conscious animal; all other animals, he believed, are merely complicated unconscious machines.

Matter, for Descartes, is extension in motion. By "extension" is meant that which has the geometrical properties of shape, size, divisibility and so on; these are the only properties which are to be attributed, at a fundamental level, to matter. Descartes offered to explain all the phenomena of heat and light and colour and sound in terms of the motion of small particles of different sizes and shapes. He was one of the first systematic exponents of the idea of science as a combination of mathematical procedures and experimental methods.

It is indeed true that the two great principles of Cartesian philosophy are—as we now know—false. The theory of geometrical matter in motion was inadequate to account for phenomena already known in Descartes's lifetime, such as the circulation of the blood and the action of the heart. The interaction of mind and matter, when these are conceived as pure thought and pure extension, rightly seemed to the more acute of Descartes's contemporaries to be an insoluble enigma. The Cartesian notion of mind itself, as the pure consciousness of an isolated ego, was subjected to decisive philosophical criticism by Kant in the eighteenth century and by Wittgenstein in the twentieth.

Despite the untenability of the Cartesian system as a whole, Descartes's conception of the nature of the philosophical enterprise long continued and still continues to exercise a powerful hold on the thought of philosophers both professional and unprofessional. Whereas his medieval predecessors in philosophy were churchmen attached to universities, Descartes was a man of the world who never gave a lecture; he embodied the idea of philosophy as an individualistic, non-academic, secular discipline of the intellect and will. He insisted that the first task of the philosopher was to rid himself of all prejudice by calling in doubt all that could be doubted; and the second was to prevent these doubts leading to scepticism. This put epistemology, or the systematic study of the nature and conditions of knowledge, at the heart of philosophy. In the quest for certainty, proof against scepticism, Descartes took as the surest and indispensable starting-point the immediate data of the most private consciousness. His conception of philosophy was thus of an activity which was solitary epistemological, and reflexively self-conscious.

This view of philosophy has survived not only the philosophical critique of the Cartesian ego by Kant and the philosophical dissolution of Cartesian privacy by Wittgenstein. It has had to endure assaults of a less directly philosophical nature. It continues to fascinate despite the devaluation of individualism by followers of Marx, despite the boycott of epistemology by logicians in the wake of Frege, despite the undermining of self-consciousness by psychologists since



René Descartes—reproduced from an engraving by Edelinck after the portrait by Franz Hals.

Freud. Even today Descartes's concept of mind governs the thinking of many philosophers, whether or not they theoretically accept the criticisms of Kant and Wittgenstein. He is the dominant one among intellectually sophisticated people who are not professionally trained in philosophy.

Historical interest in Descartes's philosophy is on the increase in the English-speaking world. For 1978 alone there full-length studies of his thought have been announced: by Professor Edwin Curley from Canberra, by Professor Wilson at Princeton, and by Professor Bernard Williams at Cambridge. Williams's book is the first to appear, and it is also the one which aims to reach the widest audience both within and outside academic circles. It is a most engaging and instructive book, and if the other books announced reach the same standard of excellence, 1978 will be a year to remember in Cartesian studies.

There is a famous portrait of Descartes by Frans Hals from which—as Alain once said—the philosopher stares at his commentators with a baleful glance which says "Another one who is going to get me wrong." Williams's book bears out this cover of this portrait, but the book portrait painted in Descartes's last year of life, showing a rather chastened philosopher worn down by giving tutorials to the Queen of Sweden. The omen has been well averted.

Williams subtitled his work "the project of Pure Enquiry": he sees Descartes's method as a search for truth from a perspective in which the inquirer loses all interests other than his interest in knowledge. The search for an error-proof method of acquiring true belief, turns into a search for certainty and the quest for a transcendental guarantee of knowledge which is to permit the creative of a cumulative, evergreen, self-justifying edifice of man and nature. He follows Descartes's project through the method of doubt, the *cogito* and the proof of the real distinction between mind and body, to the proofs of the existence of a God who is to be the guarantor of clear and distinct perception. It is because Descartes's proofs of the existence of God are

hopelessly invalid, Williams believes, that the project of Pure Enquiry fails: the invalidity of the proofs.

leaves anyone who has got that far in Pure Enquiry with nowhere to go, since God was for Descartes the bridge from the world of himself and his ideas to anything outside that world; and the subsequent history of philosophy has found it hard to see what could replace that bridge, once the question has been put in those terms. Repeatedly, the philosopher who travels that far with Descartes has found that he has had to make do with what he has on the near side of the bridge, so that Descartes's own transcendental religious metaphysics, has had a legacy which—when not merely hopeless solipsism—has consisted of phenomenalism and idealism, which Descartes would have regarded, rightly, as failing to offer knowledge of a real world.

Though Williams thinks we must abandon the Cartesian quest, for certainty, the goal of a unified science, the dualist conception of extended geometrical matter and transparently rational mind, and indeed the whole project of pure and solitary inquiry, he still claims to be in alliance with Descartes on a single fundamental issue. We must retain, he says, Descartes's aspiration for an absolute conception of the world abstracting from local or distorted representations of it: only thus can we display natural science as something which is indeed knowledge. Thus far, and no further, Williams seems prepared to regard himself as a Cartesian.

The aspiration for an absolute conception of the world, as Williams believes, is a vital one to retain: but there is something very odd in regarding it as particularly Cartesian. On the one hand, the aspiration was shared by the overwhelming majority of philosophers between Plato and Kant; on the other hand, Descartes himself is comparatively quite uninterested in his commitment to it. Indeed, one of the most illuminating of contemporary studies of Descartes, Professor Harry Frankfurt, has been able to argue that the Cartesian method is not aimed at the discovery of truth at all, but solely at achieving a coherent set of beliefs immune to sceptical undermining. Like Williams I think that Frankfurt underestimates Descartes's concern with truth: but the fact that his interpretation can be defended without absurdity makes Descartes an odd choice as a champion of absolutism.

To me it seems that every one of Descartes's original and characteristic philosophical positions was radically mistaken. The power of his intellect is shown not by his insights into truth but by his astonishing internal coherence and by the enduring fascination and verger, self-justifying claim to plausibility of his thoroughly false system. He was a genius of the first order: but a *genie malin*.

Williams offers no new overall interpretation of Descartes's system: this is all to the good, as any such attempt at novelty at this time would be almost bound to fail. But in his detailed treatment of Cartesian themes, as he follows, chapter

by chapter, the order of thought in the *Meditations*, he constructs a new light on details of interpretation, sets the argument in relief with lively illustrations, and forces the reader to reflect for himself on the philosophical issues involved. Not content with telling us clearly what Descartes said or did, and why he said it, he generously goes on to tell us what he should not have said it and why. Williams's book is a most thorough, tough, sober, readable general account of Descartes that the English-speaking public has yet been offered.

Williams, from time to time, invites us, when, for instance, he tells us "The incapacity to tell a difference between the power of words and the force of arguments (prevalent, then as now, in France) contributed to the sceptical orientation which existed in Descartes's time." He frequently makes out substantive philosophical issues of considerable importance as originally, perforce left tantalizingly undeveloped; as when, in footnote he asserts that there is a transcendental union of explanations which is associated with the idea of that representation of an act which enables one reliably to produce it. Two of his most interesting contributions to the understanding of Descartes are his defence of the philosopher from the charge that he believed in a totally a priori physics; and his demonstration, even if we allow the coherence of psychokinesis, mind-body interaction remains an intractable problem on Cartesian assumptions.

No one should read Williams's book without having first read Descartes's own *Discours* and *Meditations*. Descartes himself said his books should first be read through without stopping, and then read slowly, pausing over the difficulties. The reader will find Williams's book most valuable in articulating and clarifying the difficulties. But because Williams often leaves the letter of the text and broader out the philosophical discussion, his book, along with Descartes's notes, could serve as a very good general introduction to philosophy as currently practised in the Anglo-American analytic tradition.

A reader new to philosophy will undoubtedly find Williams's book hard going, because the philosophical issues raised by Descartes are taken seriously and argued through in detail. But it is no criticism of Williams to say that his book is not easy reading for the non-philosopher. Philosophical books are easy to read, impressive, and convincing are almost always fraudulent. Beginning philosophy has no shadow of meaning, if it can be followed effortlessly as first reading and which yet respects the most minute scholarly research. It is a very rare one shared by not more than half a dozen writers in the whole of history; and one of the greatest of those half dozen was Descartes himself.

Anthony Kenny

## Laws of thermodynamics

**Thermodynamics: a rigorous post-laboratory course**  
by S. H. Chue  
Wiley, £12.40 and £4.25  
ISBN 0 471 99455 3 and 99461 8

Here is yet another book in a long line of American publications on this subject claiming a relevance to interdisciplinary courses. If it is important (as many would claim) that a textbook should give ample illustration of the ease of application of fundamental thermodynamics to real engineering, it is probably more important still if one attempts the difficult task of crossing disciplinary boundaries. It is very doubtful if the author has really succeeded in his declared task, since the contents differ little from other texts making no such claim.

It is expensive and of limited use.

for one concept is very desirable. Distinctions can always be made with sufficient. The use of "heat engine" on page 37 when referring to thermodynamic systems which do not recirculate their own working fluid is unfortunate, since the term has a very precise meaning in modern teaching, totally divorced from the outmoded term used many years ago as a "title" for the subject.

The use of set theory on page 3 will not disturb new undergraduates who are used to this form of reasoning, but a great many will find it hard to take particularly well a formative stage of this book. It is very questionable whether gases should be treated before any general treatment of fluids showing the particular domain to which gases belong.

George Box

## Order on the terraces

**The Rules of Disorder**  
by Peter Marsh, Elizabeth Rosser and Ron Harris  
Routledge and Kegan Paul, 14.95  
ISBN 0 7100 8747 0

This is the first in a new series whose declared aim is to bring to light aspects of childhood which are usually invisible. (Little children are in the traditional way, the series is based on the ethnographic method which uses children themselves as the prime source of information about their "otherwise mysterious activities". This brief study attempts to apply the method to the activities of football hooliganism and links their behaviour to earlier experience in the classroom. The authors use a sociological model called deviance amplification theory to attempt to study the behaviour of football fans at Oxford United FC. They posit that societal reactions to the behaviour of sub-groups has the effect of producing a degree of isolation and alienation among those who commit what are perceived as anti-social acts. This reaction in its turn leads to an increase in the frequency or intensity of deviant behaviour. Societal reactions increase in their turn and as a result lead to a self-perpetuating cycle of hatred and misunderstanding.

The authors suggest that if this model is correct, the "hooligans" are in effect subject to social controls and constraints. It seems that while there is often a show of violence this is largely ritualized, the main object being to win a verbal battle with the opposing team. The authors suggest that if this model is correct, the "hooligans" are in effect subject to social controls and constraints. It seems that while there is often a show of violence this is largely ritualized, the main object being to win a verbal battle with the opposing team. The authors suggest that if this model is correct, the "hooligans" are in effect subject to social controls and constraints. It seems that while there is often a show of violence this is largely ritualized, the main object being to win a verbal battle with the opposing team.

The main thesis of the book is

that it is this group of "depersonalised" adolescents who compose the violent element so often luridly reported in the newspapers. The authors suggest that to explain such behaviour simply as an undisciplined thugery is not sufficient to account for the phenomena. They prefer to explain the fans' behaviour in terms of territoriality—a situation largely imposed upon this group of "hooligans" (14-18 years-olds) by the methods of crowd control (devised by the police) for separating home and visiting fans in separate ends and in terms of social groups which express themselves in terms of a career through cultural roles which lead to becoming "somebody" on the terraces.

Among such roles are those of a chant leader, "aggro" leader, ie, those who are prepared to lead a group of young people in the face of violence on the relative rare occasions on which it occurs. The authors observe "aggressive" behaviour in football fans at Oxford United and hypothesize that situations that might well be described as "hooligans" are in effect subject to social controls and constraints. It seems that while there is often a show of violence this is largely ritualized, the main object being to win a verbal battle with the opposing team. The authors suggest that if this model is correct, the "hooligans" are in effect subject to social controls and constraints. It seems that while there is often a show of violence this is largely ritualized, the main object being to win a verbal battle with the opposing team.

H. P. Hildebrand

## Bleakness in Bristol

**Class, Culture and Education**  
by Harold Entwistle  
Methuen, £6.50 and £2.95  
ISBN 0 416 75710 3 and 75720 0

The dust-jacket of this book gives fair warning of a likely gloom within. It shows a disadvantaged boy, looked on as underprivileged, being brought to a culturally handicapped state by which state the contentious words of the book itself. Luckily the contents are not so bleak as the jacket; but bleak in a different way.

They are the outcome of a substantial year from Montreal spent at least partly at Bristol. The book does examine a number of urgent current debates within education, but the examination is chiefly in means—and a good one—of exploring an area: the area of the interrelations indicated in the title. It is therefore hardly possible to summarize the book here. In looking at the debates, however, Professor Entwistle comes to some firm and quotable conclusions. He maintains, for instance, that with the planned help of technology, equality of status within education and society could be attained without uniformity of curriculum and social class. He offers a useful grid of meaning, the term "culture"—a word that, in common use, has acquired the character of scattering shot which, aimed at the pigeon, is pretty sure to bring down something if only an indolent passing sparrow.

He also argues convincingly that sociology itself cannot offer a way to guide sociological change (ie philosophical) account of human nature. From this standpoint he is able to show the inadequacy of certain beliefs surrounding the community school. Middle-class parents seemed to me to be arguing that children stranded on a traffic island should study the island, not the traffic. Professor Entwistle, not least fair to Professor Bantock, almost alone, Bantock has tried to look the disturbing possibility that

we may be wrong in supposing that, in a democracy, everything can be everybody's. But his curricular proposals do not need theoretical backing since they are rooted in an simpler grounds: 11-plus experience showed conclusively that any selection process, even the most sophisticated, leaves an intolerable margin of mis-placings. If only it were as straightforward as division into blood-groups!

At nearly every crucial point, then, I am convinced, and yet I find the book unsatisfactory. Partly, it is a matter of tone. When expounding, as he is through most of the book, Professor Entwistle is suave, urbane, aloof; but the savvy proves when examined to depend too much on gentlemanly evasion in the use of language. For instance, in stating other people's views he relies heavily on variants of the formula "... but it is not clear that ...". (It occurs at least eight times by page 24.) This, in context, gives the impression of a dialectical victory won, whereas in fact it does no more than imply, without reason given, that the burden of proof lies with the adversary; while retreat is always possible since nothing positive has been said.

Partly, it is that the book attempts too much and so must often be superficial. Well over 250 works are cited in the reference section. How can so much material be well handled in 185 pages? In consequence, the author is within twenty pages of his Conclusion before he reaches what I see as the nub of the book: the place of work and "leisure" (interestingly redefined) in the derivation of a sense of meaning. I hope he will be persuaded to expand these pages into a separate book.

But chiefly it is that the book belongs to a rather tedious and narrow species. No one reading it would guess that schools more than most buildings are subject to arson, or that maternity has become a low-status profession, or that small children are being taken from their

home villages for their schooling, or that adult sex with child partners is being openly campaigned for, or that intense herd pressures make intolerant growth virtually impossible in many comprehensive schools. These matters, I know, are not Professor Entwistle's topic, but they are what practising teachers are up against, and they could hardly fail to influence an adequate treatment of education. Earth looks deceptively peaceful from the moon.

Abstractions, as Professor Entwistle agrees, owe whatever value they may have to their success in "abstracting" from actualities, and continuing throughout the argument to represent aspects of those actualities. But discussion of this type frequently starts with faulty analysis and proceeds to interbreed the products of the analysis, with an effect of geometrically cumulative inequality. Thus, the trivializing effect of competitive one-way communication, which I say well be the key to an understanding of our century, gets little attention or none in this kind of polemic. Bartok, Stravinsky, Britten are seen as high culture and the village tunes that inspired them as low. Curriculum theory assumes that the effect of a curriculum is recognizably like its intention, whereas classroom observation (of religious education, for example) shows how false that assumption may be. If there were space, one could offer examples in detail. For me, the unreality of discussion so derived engenders a gloom—that is, admittedly, less dense than that of the cover.

Even the language of this book is for the most part level. I would be a sad thing if teachers-in-training are to give time to weighing the proletarianization of the middle class against the bourgeoisie of the working class, when they could be giving it to considering more basic issues. The book has a "Proletarianization" — we can only hope that sociologists are more sensitive to people than to language.

Raymond O'Malley

## Ad hoc development

**The Poverty Business: Britain and America**  
by Joan Higgins  
Blackwell and Martin Robertson, £7.85  
ISBN 0 631 16260 7

Joan Higgins looks at four "demonstration projects" (which she defines as the social equivalents of pilot projects in industry): two from the United States, the Community Action and Model Cities programmes, and two from Britain, the Education Priority Area programme and the Community Development Projects. A great deal has been written already, particularly about the American projects. Although Higgins provides little new material she summarizes existing literature well and provides a clearly written, if brief, résumé of the main areas of interest.

However, Higgins makes it clear that the aim of her book is not simply to provide a beginners' guide to demonstration projects, it is also to contribute to knowledge about the development of social policy and to extend theory in this area. Her thesis is that functionalist and conspiracy theories provide an inadequate basis for the understanding of the development of social policy: much more satisfactory is explanation based on "ad hocism". For Higgins this means that social policy develops, not according to a pre-ordained pattern, but as the result of constant compromise and adjustment.

Linked to this theme is Higgins's assertion that research has little, if any, influence on the direction of social policy. More frequently research is used by governments as a smoke-screen and as a way of delaying decision making. Necessary social policy changes are the result of "demonstration projects".

Unfortunately, the material presented is less than ideal to illustrate Higgins's central concerns. A satisfactory examination of policy

making would have demanded study at a different level: either a more detailed analysis of particular policy decisions, or a broader historical sweep. The same is true for an analysis of the impact of research on policy making.

Higgins also passes over the problems of comparing the four projects she has chosen too quickly. She mentions that difficulties exist but apart from saying that they need to be taken into account fails to show how they can be overcome. Surely, if one of the central aims is to examine the value of conspiracy theory then the difference in origin, size and political impact between the American and British programmes is important.

While this may not mean that comparisons should not be made, it means that if they are to be made then one of the roles of the writer should be to highlight the contrasts. Although Higgins mentions some contrasts the reader is left to feel that they could have been given more prominence, particularly in the conclusion.

Nevertheless, it would be unfair to conclude the review on a critical note. At the very least the book introduces the reader to important and interesting areas of debate. Too often students of social administration and policy are justifiably criticised for concentrating on descriptive and ignoring important theoretical discussion. Higgins has avoided this trap. Although she may not have provided a major contribution to or extension of theory, she has shown the way that policy issues can be examined against a theoretical background. For social administration undergraduates who may be tempted to sample her book she may also provide a much needed shock by showing that the essentially functionalist explanations for the development of social policy, which so many uncritically accept, are not as "obviously correct" as they imagine.

Michael P. Jackson

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## BOOKS

## Caste systems in world diplomacy

Africa's International Relations: the diplomacy of dependency and change  
by Ali A. Mazrui  
Heinemann Educational, £8.50  
ISBN 0 89158 733 0

In a world which is still organized into rival armed camps, which is technologically and commercially integrated as never before but also characterized by huge contrasts of wealth and power, which is possibly threatened by ecological disaster, and which is no longer held together by the self-legitimizing structure of Western imperial power, it is possible to conceive of a global international society within which inter-state relations can be a strictly civilized? Many have doubted it; Professor Mazrui does not.

It is perhaps the main strength of his new book that while focusing on Africa's place within the international structure, he constantly forces us to ask the wider questions, to study African problems not just for their own sake but for the light they shed on our common predicament.

Both as a writer and as a social and political thinker Mazrui poses certain problems for the reviewer: he does not proceed in a straight line, there is no single thesis, no over-simplified vision which one can endorse or reject according to taste. On the contrary, the total picture is both complex and constructed from numerous supporting arguments, on subjects as widely apart as—take two examples at random—the contribution of Nehru's film censorship policy to Afro-Asian solidarity and the relevance of traditional African attitudes towards death in contemporary debates about ecology.

But while it is often difficult to pin him down, Mazrui remains by far the best guide to the intellectual landscapes of contemporary Africa. His passion for categorization and taxonomy, although sometimes indulged primarily for literary effect, is much more often genuinely creative. When he contrasts the industrial military complex of the West with the "lumpen militia" of the "middle classes" of the international system, the word play is intended to lead us into asking unconventional questions about the social basis of power in Africa and the world at large.

The organization of the book is straightforward. Mazrui abandons conventional chronology in a deliberate attempt to link "the three stages of temporal experience: yesterday, today and tomorrow" partly in response to traditional African systems of knowledge, often based on an indivisible bond between the living, the dead and those yet to be born.

The book opens with a discussion of Africa's place within the international system, the impact of the major international ideologies and the basic dialectic in Africa's history since 1945 between the quest for continental autonomy and the pull of a continuing relationship with Europe. The dependency, as much psychological as economic, which is implicit in this dialectic is compounded, he believes, by the rigidity of an international system which is more like a caste than a class system. "If people of European extraction are the Brahmins of the international caste system, the black people belong disproportionately to the caste of the untouchables."

Yet within both Africa and the international system there are forces working against the perpetuation of caste. These he analyses in chapters on African relations with the Black Diaspora, Western Europe, Asia, the Middle East, the United States, the Soviet Union, and the United Nations, the body where they are all represented and which has served as the major channel for African revisionism. A final section analyses a series of global issues, race, armaments, population and ecology, where they impinge on African diplomacy as the result of "the internationalization of Africa's past and the globalism of Africa's future."

Two major themes run through the book. The first is the conflict between modernization and indigenous nationalism; the second between racialism and egalitarianism. While his explanation of these relationships (and of course they overlap) is psychologically convincing, the underlying argument, it seems to me, is stronger in the second case than in the first. African diplomacy indeed cannot be divorced from Africa's racial humiliation in the past and current racial con-

sciousness. "It remains a source of continuing psychological advance that the most racist regime in the world is within the African continent... many African feel that the dignity of the African race is indivisible." But while these grounds, wish to red South Africa from international society, the persistence of a race-based on racial privilege continues, a more general threat of displacement of power will always have to be accommodated, but the rationalizing basis of the race which underlies contemporary society must deny the legal, racial or caste privilege.

Racial consciousness is also bound up with African nationalism, the search for authenticity to indigenous values. But at the same time the authentic and indigenous have to be reconciled with a universal imperative of modernization. And notoriously modernism is a morally and culturally ambiguous concept. In a fascinating chapter on ecology and culture, Mazrui contrasts the ecological culture of the west, which required a "work of intellectual agitation" to explore new factors of nature, with the ecological culture of Africa, which requires a "work of intellectual agitation" to explore new factors of nature.

The aim and method of his work inevitably impose their limitations on its content. There can be no participant observation in events so far distant from the times of inquiry, and the information must come principally in generalized statements; meetings with councils of elders could hardly produce case histories. Hence Leakey has produced an ethnographic record in the strictest sense of the word. Ritual and technique predominate over political and social organization. There are chapters devoted to "Food, Drink and Tobacco", "Crafts and Industry", "Hunting and Trapping". There is a chapter on animal husbandry, but petty rights are treated only—and even there, perfunctorily—in relation to land.

Here Leakey associates himself with the Kikuyu tradition that their claim to their land was identical with that of the settlers to theirs.

James May

## Anthropological romanticism

Anthropological Romance of Bali 1597-1972: dynamic perspectives in marriage and caste, politics and religion  
by James Boon  
Clarendon University Press, £10.50 and £3.95  
ISBN 0 521 21398 3 and 29226 3

James Boon's study is an examination of the confrontation of Western thought and Balinese society. The former, he suggests, has by and large failed to do justice to the complexity of the latter.

Arguing that few anthropologists "attempt carefully to review the history of the anthropology of the societies they study, unless it is to suggest their predecessors' inadequacies", Boon includes a study of Bali in the eyes of earlier writers. Ignoring his own warning about the inadequacies of a wide interpretation of the history of anthropology, however, Boon proceeds to point to the inadequacies of the accounts of travellers, administrators, and encyclopaedists.

One group, for example, found itself seduced by the spirit of local autonomy and easy domesticity neglecting the powerful aristocracy and the concept of divine kingship. Others saw in Bali merely an outpost of Hindu culture and society, ignoring the specifically Indonesian flavour of the place.

While each new group of writers apparently made some progress, even anthropologists in this century have attempted unsuccessfully to reduce Bali to well-known anthropological oppositions—tradition/modernity, rural-urban, alliance/descent, ascription/achievement—and hence similarly have failed to provide an adequate picture of Balinese life. Tradition is found in towns and modernity in some remote villages. Neither alliance

theory nor descent theory provides an understanding of Balinese marriage systems. The polarities of traditional anthropological analysis are inadequate when faced with the polarities of Balinese culture.

In a phrase reminiscent of Clifford Geertz perhaps the most influential student of Indonesian culture in the West Boon writes that the "challenge that remains is to surmount the polarity by devising an ethnology of Balinese culture as an integration of flexible institutions and ideological themes". This he attempts to do in the subsequent discussion of ancestor worship, the spatial organization of culture, the meaning of marriage and descent, caste and hierarchy. Balinese ancestor cults, for example, may on the one hand be seen to preserve the integrity of descent lines. At the same time they may also produce conflict and division, hence bellying any attempt to account for them in strictly functional terms.

Marriages, which are integral to the structure of social hierarchy, are neither simply ties between individuals nor are they entirely reducible to alliances between groups, neither "a personal whim nor a social expression of on-going exchange".

Further illustration of this basic theme which runs through the book could be offered, but it is more important to ask whether or not Boon has succeeded in his efforts at surmounting the polarities of anthropological analyses and Balinese culture. One would have to be not to look at previous writings according to whether they were right or wrong, but rather to attempt to account for previous theories of Bali. The shifts in attitude, however, are never really explained, either internally in the context of contemporary ideas or externally, in relation to the changing

not forms of European dominant or Indonesian societies.

Another lack would be to provide some sort of statistical picture as opposed to the anecdotal evidence of previous studies. Statistics are one way of describing the culture which Boon is keen to point out, however, chooses to ignore that "numbers would often give a false impression of frequency". While it is true that statistics are a false impression of frequency, none the less would it not have been better to use some kind of statistical information rather than attempting to "generalize about the million Balinese" on the basis of "select ethnographic examples and case studies"?

Overall the reader is left with the feeling that Boon is more delighted in the contradictions generated by the confrontation mentioned above. When he comes to resolve them, he frequently relies on a mystifying turn of phrase which leaves one more confused than ever. For example, are we to interpret his explanation of the social-political organization of the means of intensifying the rhetoric of "that culture"? In fact the ultimate issue is in the anthropological romance with Boon. Rather than being used to illustrate the advantages of all-potential, or the implications of domestic unit, Bali is here used to illustrate the increasing complexity of the world which is unknown to science, a view which is relatively easy to put forward, one which will require a good deal more than this book to correct a large number of anthropological

Joel S. Ma

## BOOKS

## Chronicler of the Kikuyu

The Southern Kikuyu before 1901, 3 volumes  
by L. S. B. Leakey  
Academic Press, £16.00, £15.50 and £15.00  
ISBN 0 12 439901 0, 439902 9 and 439903 7

Louis Leakey was a great archaeologist. The son of missionaries, he grew up playing with Kikuyu boys and learned their language in that part of all ways. He maintained his friendships into adult life and entered some grades in the Kikuyu age organization. He never studied anthropology, considering it unnecessary; "I am a Kikuyu", he used to say.

In 1937 he compiled an account of Kikuyu customs based on interviews with elders reinforced or interrupted through his own experience. His aim was to record the past before it was forgotten. He or his editors chose for his book the title *The Southern Kikuyu before 1901*. It runs to 650,000 words; he insisted that it must be published complete or not at all, and so no abridgement would take it until the Academic Press agreed shortly before his death.

The aim and method of his work inevitably impose their limitations on its content. There can be no participant observation in events so far distant from the times of inquiry, and the information must come principally in generalized statements; meetings with councils of elders could hardly produce case histories. Hence Leakey has produced an ethnographic record in the strictest sense of the word. Ritual and technique predominate over political and social organization. There are chapters devoted to "Food, Drink and Tobacco", "Crafts and Industry", "Hunting and Trapping". There is a chapter on animal husbandry, but petty rights are treated only—and even there, perfunctorily—in relation to land.

Here Leakey associates himself with the Kikuyu tradition that their claim to their land was identical with that of the settlers to theirs.

## Encounters in the Congo

The Juma and the Church: Bantu Catholic Movement in Zaïre  
by Willy De Craemer  
Oxford University Press, £8.00  
ISBN 0 19 822708 6

Juma, "relatives" or "family" in Swahili, is the name that was given in 1954 by Father Placide Tempels, a Belgian Franciscan priest, to a group of married couples who had come to listen to and accept his teaching in one of the urban centres of south Katanga, then the Belgian Congo. By the 1960s the movement had grown to number a few thousand adherents, mainly in the developed, urban areas of the

because they had bought it from the *banda*. The process, he tells us, began some 300 years ago, but it is described as if just what happened was clearly recalled. The core of probable fact is the fact of the twentieth century had become a myth is that the Kikuyu did not make agreements with them sanctified by ritual and by the transfer of livestock. It does not seem to have appeared curious to Leakey that when a market in land had been so long established, the Kikuyu did not buy and sell from one another.

Certain topics are treated in more detail than they had been by earlier writers. There is a very interesting account by Kikuyu women in Masai country. In famine times such women sometimes brought back Masai children whose own parents had butchered them for food. Leakey writes, "I have never known this as a kind of slave dealing and cited it as evidence of African inhumanity, and it is good to be reminded that such an exchange certainly saved the child, and possibly the rest of his family, from starvation. But this argument is followed by the actual description of the adoption of the child. Too often in this book, one thing leads to another.

This account of warfare is also extremely interesting, and gives the lie to the stereotype of the Kikuyu perpetually harassed by their pastoral neighbours. But even here we approach the actual organization of a raid through pages on the ritual preparations and the magic substances used to ensure success.

From the man who so often told us that he was "an older of two" we might have expected an illuminating interpretation of the traditional age organization seen through his own experiences. But the introductory chapter on social organization is concerned only with the family and the maturation of individuals, and is largely devoted to

life-crisis rituals, and the subject comes up only incidentally in the chapter on "Law and Justice" and in the brief account of the "hand-over" ceremony which concludes the book. There is no picture of the division of political responsibilities, and even the law and justice chapter consists largely in an enumeration of specific offences and the penalties for them. Dispute settlement by the elders as described here is the imposition of judicial decisions; there is no hint of the processes of consultation and compromise that have been observed in other age-organized societies.

There is a sense in which a historical record can never be out of date. There is another sense in which a book published 40 years after it was written may seem out of date to a reader who is acquainted with more recent work. But in yet another sense this book was out of date at the time when it was written. By 1937 Malinowski's major work, and the earlier volumes of his first pupils, had been published. Radcliffe-Brown's *Andaman Islanders* set an example for the analysis of ritual. Evans-Pritchard's *Witchcraft among the Azande* offered a vocabulary for distinguishing different forms of what came to be called "mystical aggression". No doubt Leakey did not have time to read such books, and it may well be that today's Kikuyu will treasure this work. But what it shows most clearly is that the Kikuyu is no substitute for being an anthropologist. Adopts of this calling will miss from it nearly everything that was already expected in 1937: a picture of the organization of a society in co-operating and competing groups, of the basis and means of transmission of political authority, of religion and magic as expressed not only in ritual but in belief, conveyed in precise and generally accepted language. Leakey offers his own interpretation of kinship terms, but he never defines the family nor does he distinguish between the meanings of "legal" as "enjoined" and as "permitted".

Lucy Mair

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J. D. Fage and Maureen Vecity

In the twenty years since this atlas was first published, the continent of Africa has undergone a momentous transformation. While in 1958 colonial rule still held sway, there is now hardly an area of Africa which is not a self-governing state. But in addition to political change, Africa has experienced a rapid and expansive flowering of historical and archaeological research into her own past.

For these reasons, a new edition has become essential. Wholly revised and updated, this atlas covers African history from the beginning of the Christian era up to the present day. Of the seventy-one maps, more than a third are completely new and many relate to areas or periods which were previously obscure. Reflecting the most spectacular advances in knowledge, this book illuminates in particular the formative centuries before the European scramble for Africa.

Cloth £10 Paper £2.95

Edward Arnold

41 Bedford Square, London WC1B 4DP

Malcolm Ruel



## BOOKS

## Societies on the move

The Tuareg: people of the Ahaggar  
by Jeremy Keenan  
Allen Lane, £12.95  
ISBN 0 7139 0636 7

The pastoral nomad societies, perhaps more than any others subjected to the pressures for change during colonial and postcolonial times, have been the victims of ill-informed generalization, well-intentioned romanticism, myth and downright prejudice. Unfortunately a great deal of the anthropological literature offers very little insight into the production relations, human ecology, or the dynamic aspects of societies and their responses, real or potential, to planned change. Consequently much change has been induced on totally inadequate evidence, false premises, or in the dark. This, in no small measure, accounts for the miserable state of many pastoral environments, the movement of former nomads to peripheral and demoralizing positions in new national states, and the loss of a useful productive resource.

Here, however, is a study which focuses clearly on the process of change so that the reader feels he understands precisely how the peoples of the Ahaggar came to their present position. More important, it indicates the mixture of environmental, social and political realities which future planning efforts should, at least, recognize. To achieve this the author has used a loosely historical approach encompassing three major phases in the evolution of the Tuareg: the precolonial, the colonial, and the period of Algerian independence. Within this structure and on the

basis of detailed fieldwork he lays the troublesome ghosts of persistent myth. The precolonial period, for example, was anything but static, with the term "traditional" so misleadingly connoting. Major movements of population brought entirely new ways of exploiting the environment. Cultivation was introduced with the encouragement of the nobles of Haratin from outside the area to come and settle on a mortgage basis. This contributed another plank to the nomad economy of the nobles.

In addition, the time before the French conquest saw the rise of the vassals commercially to a position where they challenged the hegemony of the nobles in, for instance, the caravan trade to the south. It was also a society quite capable of introducing change: quite a contrast to the "timeless order" perceived by many administrators. This was a complex network within which the social and production relations were highly interlocked and variegated. It is evident from this account that the old divisions into "Tuareg", "Haratin" and "White" and "Black" Tuareg were misleading and quite inadequate for any real understanding of the nature of relationships.

The analysis of the colonial period provides a fascinating counterpoint to the work of Maquet and Lemarchand on Rwanda and Burundi. There, also, existed a society in which the feudal, pastoral nobility coming from the north established its hegemony over the majority through a system of dues and obligations (*ubuhake*). The colonial presence, in both cases, served through the mechanism of indirect rule to fossilize and polarize the social structure at the same

time as introducing economic changes which challenged its existence. But, undoubtedly the most intriguing part of this study is the detailed and sympathetic treatment given by the author to the interplay between the Algerian drive to socialism and a feudal, slave-owning society. There has been an inevitable decline in nomadism, a collapse of slavery, an ending of the mortgage system, the challenging of the bonds of serfdom by an emergent vassal group, the growth of tourism, and the transformation of the economy so that settled cultivation is the predominant activity.

How at each point, the social and economic relations changed to accommodate the new order is meticulously recorded and analysed in a fresh and stimulating way. This provides a rare treat to those tired of reading the inevitable treatise on ritual or kinship groupings. Those who wish to understand just how upheavals such as colonialism, nationalism and twentieth-century socialism work their way through the finely-spun web of a complex "traditional" society are encouraged to inquire within.

It is true that the terminology is overwhelming at times for those not familiar with the Ahaggar and it is necessary to get to grips with this before proceeding with the bulk of the book. However, this is time well invested for the work is written with humanity and an appreciation of more than one perspective. What a pity that a work such as this has to provide such a penetrating insight so late in the story.

Randall Baker

## Steel behind the Raj

The Bureaucracy in India: an historical analysis of development up to 1947  
by B. R. Misra  
Oxford University Press, £8.50  
ISBN 0 19 560748 1

The Indian Civil Service—the "steel frame" of British rule according to Lord George—has long attracted the attention of historians of modern India. While some have pointed out that the lack of opportunities for Indians in government service fostered the development of nationalist politics in the late nineteenth century, others have argued that the lack of British recruits to it in the 1930s and 1940s hastened the end of the Raj. In the past 30 years, however, no one has tried to write a straightforward history of the bureaucracy in India and in doing so Dr Misra has filled a considerable gap in our knowledge.

His book highlights the years from the Cornwallis reforms of 1793 to the creation of the uncoordinated Provincial Civil Service in 1892 as the period which saw the rise and establishment of the ICS as a rationalized, bureaucratic structure based on selection by merit (for Europeans at least), personal integrity and respect for administrative forms and the law. Dr Misra associates this period with the progressive defeat of eighteenth-century aristocratic principles in the governance of India and with the emergence of a middle-class British administrative apparatus in the colonies.

As he points out, however, the ICS was never quite as rational or as impartial as it claimed to be. The difficulties placed in the way of Indian candidates, the nature of imperial rule and the elitist attitude of the Indians who did gain entry all pervaded the bureaucracy to an instrument of colonial control rather than a full-blown public

service. After 1919, as Indian politicians had to be given greater influence in the running of the Raj, the position of the ICS came under heavy attack from Indian Ministers in provincial governments and from the Provincial Civil Service. This, in turn, broke up the inter-racial unanimity as existed in the covenanted service, discouraged recruitment in Britain and increased the xenophobia of many British officials serving in India.

Dr Misra has completed a formidable task in this book, a readable and useful study of the ICS in its own right and as a study of the process of political and governmental change in India during the past 200 years.

This is an ambitious task even for one of India's foremost historians and this book shows the weakness, as well as the strengths, of its predecessors. Much of it reads like a direct compilation from research notes, with the argument and theoretical framework inadequately integrated into the text. Again, the author seems to be unaware of the work of any other scholar on the political, administrative and constitutional history of India.

Dr Misra's main conclusion is to confirm what many have long known: that the ICS acted as an arm of an imperial administration which had interests distinct from those of the people it ruled. Its obviousness of this point makes the book fall somewhat flat, although it performs a useful service in pointing out the rising tide of nationalist nostalgia for the Raj so prominent in bookstores and on the radio.

B. R. Tomlinson

## Women and the tribal balance

For Men and Elders: change in the relation of generations and of men and women among the Nyakyusa-Ngonde people, 1875-1971  
by Monica Wilson  
International African Institute, £10.00  
ISBN 0 85302 055 8

The Nyakyusa are counted with the Trobrianders, the Nuer, the Tallensi and the Ndemba as among the most generously researched societies on earth. This latest volume, the fifth from her own hand, is a major addition to the large corpus of scholarly work published jointly or separately by Monica Wilson and her late husband Geoffrey on this central African people.

Her main preoccupation here is with detailing the social changes that have occurred in Nyakyusa-Ngonde during the "century of revolution" covered by the book. She concentrates on the two periods first from Wilson's original fieldwork in 1934-38 to P. H. Gulliver's research in the mid-1950s, and second from then up to J. H. Kontor's very recent work from Leiden.

Her interest lies in two particular areas, the position of women and the relationship between generations, and she identifies three major factors as broadly responsible for the changes that have taken place: land use, wage employment and Christianity. She does not hesitate to ascribe a direct role to the last of these in influencing both attitudes and behaviour, even though this influence has been largely mediated through education.

Other writings by Professor Wilson (notably her Cambridge lectures on *Religion and the Transformation of Society*, 1971) show that she has never been excessively romantic in her attitude to traditional society. That the Nyakyusa included, and her own response to the radical changes in inter-generational authority structure and in the role of women, though obviously somewhat ambivalent, is at least as much welcome as regretful. The attention of the age-village system—that unique political principle which has done so much to make the Nyakyusa famous—may mean the end of age-mates' "good company" but it also reduces the subordinate position of women to old in at least some areas of interaction.

This in turn, however, weakens the solidarity of fraternal lineages as filial succession increasingly provides the only means whereby young men can get land. For land has now become a scarce resource. Professor Wilson notes how the new pattern of land use and the competitive achievement-oriented attitude that go with cash-cropping contradict both the traditional values of the age-village and the cooperative spirit looked for from ujamaa development in modern Tanzania.

Change is thus (evaluatively at least) a "zig-zag", and she detects something similar in the changing position of women. The disappearance of matrilineal marriage-by-service ("cock-marriage") in favour of cattle-marriage and patrilineal descent is a diminution in the status of married women in the earlier part of this century, but Christianity and

its schools have combined with labour migration to tilt the balance somewhat away from men again in the last few decades. In only one respect is Professor Wilson more than a little optimistic. On page 80 she defines that the Nyakyusa do not have what Gray and Gulliver have called the "house property complex"; but her account of the rights of husbands to dispose of the right of his wife to marry (page 130) does not seem to tally with her earlier statements.

The book is longer than it looks, its 196 pages being closely printed and dense with case-studies—42 in all. Perhaps fewer cases more carefully analysed and more fully integrated would have made for a more readable and a richer understanding of the issues. Nor is the utility of the five detached genealogical appendices of any very clear value, especially as at least two of them have been published before. But have been published before, as Professor Wilson notes, the new Blake in praise of "the minutiae of minute particulars", and while not all will agree that "only in detail is social process manifest" (page 28, italics added), certainly very little would be manifest without them.

If this book is more highly to be praised for its painstaking and evocative ethnography than for its major contribution to anthropological theory, it is exactly as dependant on other scholars as it is on its own. It is a commendable and complementary task of analysis, comparison and generalization.

Ian Hammett

## Among this week's reviewers

Dr Randall Baker is lecturer in the school of development studies at the University of East Anglia;

Dr Ian Hammett is senior lecturer in sociology at Bristol University and author of *Chieftainship and Legitimacy*;

Dr H. P. Hildebrand is chief psychologist at the Tavistock Clinic, and author of *Violence and Social Change*;

Dr Anthony Kenny is fellow and tutor in philosophy at Balliol College, Oxford. His books include *Descartes and The Anatomy of the Soul*;

Raymond O'Malley was formerly director of studies in English at Selwyn College, Cambridge;

Lucy Mair is honorary professor of anthropology at the University of Kent. She has published many books and articles on African anthropology;

James Mayall is senior lecturer in international relations at the London School of Economics;

Dr B. R. Tomlinson is university research fellow in the department of economic and social history at Birmingham University.

*Drought in Africa 2* is an African Environment Special Report edited by David Dalry, R. J. Harrison, Church, and Fatima Bezza for the International African Institute, £5. A group of authors, writing in French and English, look at the disastrous drought which affected the Sahel from 1969 to 1973 and try to draw lessons from it. Contributions cover a wide range of topics from climatology and management to social anthropology and history. There are also detailed studies of other drought-affected communities in sub-Saharan Africa.

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## Universities



Applications are invited for the following

## LECTURESHIPS

to be effective from the beginning of the session 1978/79.

## LECTURER IN AMERICAN STUDIES

(Ref. No. 568)

Candidates should have qualifications in American History or Literature, and preference will be given to those having further qualifications or an interest in American Intellectual History.

## LECTURER IN APPLIED SOCIAL SCIENCE

(Ref. No. 569)

Preference will be given to candidates with an interest in any aspect of the teaching of Social Administration and Social Policy.

## LECTURER IN ARCHAEOLOGY

(Ref. No. 570)

Candidates should have research interests, preferably in the archaeology of later Bronze Age Greece, or the archaeology of Early Iron Age Italy. They must also be willing to teach the archaeology of the Mediterranean lands in the second and first millennia B.C., together with the relationships between the civilizations of Mediterranean Europe and the barbarian cultures.

## LECTURER IN GENETICS

(Ref. No. 571)

Candidates from all fields of Genetics will be considered.

## LECTURER IN GEOGRAPHY

(Ref. No. 572)

Candidates should be qualified to teach Biogeography and to assist in courses on quantitative methods.

## LECTURER IN GERMAN

(Ref. No. 573)

Preference will be given to candidates whose research fields include 17th or 19th century topics.

## LECTURER IN MINING ENGINEERING

(Ref. No. 574)

Candidates must be able to teach a range of subjects in the mining field, and will be expected to initiate and engage in research in an appropriate specialist area.

## LECTURER IN MUSIC

(Ref. No. 575)

Preference will be given to candidates with special interest in composition.

## LECTURER IN PSYCHOLOGY

(Ref. No. 576)

This vacancy is created by the resignation of Dr G. M. Stephenson to take up the Chair of Social Psychology at the University of Kent. Applicants with different research or teaching interests need not be discouraged from applying, but the facilities which Dr Stephenson has developed may be of particular interest to someone wishing to work in the fields of experimental and observational social psychology.

The salary for these appointments will be within the range £3,660 to £7,308 but all appointments will be made initially in the range £3,660 to £4,130 per annum.

Further particulars and forms of application, returnable not later than 30th April, 1978, may be obtained from the Officer, University of Nottingham, University Park, Nottingham NG7 2RD.



Applications are invited for the following posts, for which applications close on the date shown. SALARIES (unless otherwise stated) are as follows:

Professor £43,381; Senior Research Fellow £30,822; £24,887; Research Fellow £14,987-£18,102; Senior Lecturer £20,104-£23,222; Lecturer £14,984-£18,104. Further details, conditions of appointment for each post, method of application and application form, where applicable, may be obtained from the Association of Commonwealth Universities (ACU), 25 Garton Square, London WC1H 0PF.

University of Sydney

CHAIR OF PSYCHOLOGY

Applications are invited for the Chair of Psychology from persons in the field of abnormal or clinical psychology or a related field.

6 May, 1978.

University of Adelaide

LECTURER IN JAPANESE

Within the Centre for Asian Studies, which currently offers courses in modern Japanese and Chinese languages and also in Asian history. The content of the course is not fixed, but the modern social and economic aspects of Japan are of particular interest. Candidates should be able to teach at least one of these subjects.

University of Melbourne

LECTURER OR SENIOR LECTURER DEPARTMENT OF GENETICS

Applications are invited for the Department of Genetics. Applicants are especially welcome from the fields of population genetics, molecular genetics, and the genetics of human disease. The department is currently engaged in research in the genetics of human disease, and the ability to make a contribution to this research is essential. The department is also engaged in research in the genetics of human disease, and the ability to make a contribution to this research is essential.

University of East Anglia

Curriculum Course Development

Two course team members are required by the Open University to work on the course, Curriculum Review and Pupil Assessment, to be presented for the first time in 1981.

The course is being developed in collaboration with the Schools Council. It is intended to provide classroom teachers with practical guidance in reviewing and improving the learning and teaching approaches which they use, and in assessing their pupils' performance. The materials which the team will produce include correspondence texts, TV and radio programmes and broadcast notes and assignments and examinations.

Applicants should have a good honours degree or equivalent and experience of teaching in primary or secondary schools. Experience in curriculum development in schools or in school-based or school-based research activities is important. Candidates should be able to provide evidence of an ability to write for publication and should be familiar with existing curriculum development projects and materials.

The appointments are for 2 years; the usual method of appointment is by secondment where the University pays the appointee's salary plus any subsequent increases/increments that occur during the period of the secondment.

Further particulars and an application form are available, by postcard request please, from The Personnel Manager (LCD 2), The Open University, P.O. Box 75, Wotton Hall, Milton Keynes MK7 5AL, or by telephone from Milton Keynes 63666. Closing date for applications: 28 April, 1978.

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## Polytechnics continued

## ULSTER COLLEGE

THE NORTHERN IRELAND POLYTECHNIC

Faculty of Technology

## PRINCIPAL LECTURER—MARITIME STUDIES

The work of the School of Maritime Studies is to be organized into a Ship Operations Division (Navigation and Marine Radio/Electronics) and a Ship Technology Division (Naval Architecture and Marine Engineering). Applications are invited from suitably qualified candidates with an extensive background in relevant industrial and teaching experience in a specialist area appropriate to one of these divisions. Preferably, they should also possess a postgraduate qualification and be prepared to take an active part in developing research interests in the School.

Faculty of Social and Health Sciences

## PRINCIPAL LECTURER IN INDUSTRIAL PSYCHOLOGY

This key post has been established to develop postgraduate work in Industrial Psychology. The person appointed will be a senior member of the flourishing School of Psychology and will take responsibility for the supervision of full-time and part-time taught Masters programmes and the overall coordination of undergraduate and postgraduate teaching in Industrial Psychology. An important aspect of the appointment will be the development of links with industry and commerce; the School of Psychology is in a strong position to develop these in cooperation with the Faculties of Technology, Business Administration and Management within the Polytechnic. Applicants should be holders of a degree with an appropriate postgraduate record in Industrial Psychology. They must be experienced in the supervision of postgraduate students and should have published substantially.

Faculty of Science

Two posts in Computer Science:

## LECTURER LECTURER II/SENIOR LECTURER

Temporary one-year appointment

Applicants should have a good Honours Degree and/or a Professional Qualification. The duties of the posts include the organization and teaching of courses in the School of Computer Science; the successful candidate will also be encouraged to participate in the development of research and postgraduate work. A background in data processing, together with previous teaching experience, would be considered an advantage.

The Polytechnic is a direct grant institution with an Independent Board of Governors. It opened in 1971 and now has a student population of some 7,100. It has extensive new purpose-built accommodation, including 750 residential places on the 114-acre campus overlooking the sea at Jordanstown, a pleasant and quiet residential area. There is a scheme of assistance with removal.

Salary Scales: Principal Lecturer, £5,432-£7,134 p.a.; Lecturer II, £3,744-£5,985; Senior Lecturer, £5,523-£8,447 p.a.

Further particulars and application forms, which must be returned by May 2, may be obtained by telephoning Whiteabbey (0231) 65131, ext. 224, or by writing to:

The Establishment Officer, Ulster College, The Northern Ireland Polytechnic, Shore Road, Newtownabbey, Co. Antrim BT37 0QB.

## Ulster College Northern Ireland Polytechnic

Faculty of Social and Health Sciences

## DIRECTOR OF STUDIES and HEAD OF SCHOOL OF APPLIED SOCIAL STUDIES

Salary Scale: £7,887 to £9,093

A person of high academic qualification and considerable experience is required to lead the newly established School of Applied Social Studies. The person appointed will be responsible for staff and resources in social work, social science and youth and community work, and will be course director to diploma and degree courses in these areas.

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Further particulars and application forms which must be returned by May 1 may be obtained by telephoning Whiteabbey (0231) 65131, extension 2243, or by writing to:

The Establishment Officer, Ulster College, The Northern Ireland Polytechnic, Newtownabbey, Co. Antrim, BT37 0QB

## HONGKONG POLYTECHNIC

Applications are invited for the following post in the Department of Building and Surveying, Division of Applied Science, which is tentatively from 1 September, 1978:

## PRINCIPAL LECTURER—BUILDING TECHNOLOGY c. £10,500-£13,000.

## Qualifications

A relevant degree or MIOB or equivalent. As the Polytechnic places emphasis on the utilization of Education Technology in its curriculum, candidates should have an advanced specialist qualification of extensive experience in a specialized field and substantial teaching and industrial/commercial experience and proven administrative ability.

## Salary Scale

HK\$91,740 by 5 increments to \$113,340 p.a.

## Conditions of Service

Appointment will be on two-year gratuity bearing contract terms initially. Thereafter suitable appointments may be offered further contracts or superannuation terms of service at the discretion of the Polytechnic. Benefits include passages, long leave, subsidised accommodation, medical and dental treatment, education allowances and a terminal gratuity equal to 25 per cent of basic salary received over the entire contract period.

In the first instance, applicants are invited to send in, as soon as possible, a detailed curriculum vitae and if subsequently short-listed, will be asked to complete an application form. Further details will be sent by the Recruitment Unit, TETOC (Technical Education and Training Organisation for Overseas Countries), 35/37 Grosvenor Gardens, London, SW1W 0BS.

## Tetoc

## ULSTER COLLEGE

The Northern Ireland Polytechnic

Faculty of the Arts

## Principal Lecturer in Politics

The post is in the School of Philosophy, Politics and History. Candidates are required to have considerable teaching experience and publications. For consideration, candidates should send a curriculum vitae, a list of publications, a list of references and a list of subjects taught. The successful candidate will be expected to contribute to the development of the School of Politics and to the development of the Department of Social and Political Studies.

Faculty of Business Administration

## Lecturer II or Senior Lecturer Agricultural Economics

Applicants are invited from Agricultural Economics with Honours Degrees and postgraduate qualifications. The successful candidate will be required to teach Agricultural Economics and another area of the subject, to do research and contribute to curriculum development.

Centre for Management and Continuing Education

## Visiting Lecturer in Personnel Management and Industrial Relations (One Year Appointment)

The Centre for Management Education requires a suitably qualified and experienced person to join the work of the Industrial Relations Unit for a period of twelve months. The work will involve teaching on both certificate courses and diploma and degree courses. Candidates should have had suitable industrial and academic experience.

Principal Lecturer £5,432-£7,134 p.a.  
Senior Lecturer £5,523-£8,447 p.a.  
Lecturer II £3,744-£5,985 p.a.  
(Waiting Lecturer or Lecturer II Scale)

The Polytechnic is a direct grant institution with an Independent Board of Governors. It opened in 1971 and now has a student population of some 7,100. It has extensive new purpose-built accommodation, including 750 residential places on the 114-acre campus overlooking the sea at Jordanstown, a pleasant and quiet residential area. There is a scheme of assistance with removal.

Further particulars and application forms which must be returned by May 1 may be obtained by telephoning Whiteabbey (0231) 65131, ext. 2243 or by writing to:

The Establishment Officer, Ulster College, The Northern Ireland Polytechnic, Shore Road, Newtownabbey, Co. Antrim BT37 0QB

MANCHESTER POLYTECHNIC  
John Dalton Faculty of Technology  
DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING  
RESEARCH STUDENTSHIP

The Science Research Council has approved a research project entitled "MICROPROCESSOR-BASED AUTOMATIC PRODUCTION TEST EQUIPMENT" for the award of a Research Studentship (tenable under the Cooperative Awards in Science and Engineering (CASE) Scheme) in association with Philips Electronics Ltd. Blackburn. Applications are invited for this studentship from graduates having a first or upper-second class Honours degree or equivalent qualification in Electrical and Electronic Engineering or other appropriate subject and from students expecting to be so qualified this session.

The award will be for a period of up to three years and the salary is at the normal SRC Studentship rate which can be increased by a supplement of up to £600 per annum according to circumstances. For further particulars and application forms (returnable by April 30, 1978) please apply to a self-addressed envelope marked "Research Studentship" to the Secretary, Manchester Polytechnic, All Souls, Manchester M13 9PL.

## ULSTER COLLEGE

THE NORTHERN IRELAND POLYTECHNIC

Faculty of Technology

## LECTURER II—Civil Engineering Construction and Management

Applications are invited from graduates, preferably with a degree in Civil Engineering, and with a minimum of five years' experience in the field of construction and management. The successful candidate will be expected to contribute to the development of the School of Civil Engineering and to the development of the Department of Building and Surveying.

## LECTURER II—Structural Analysis

Applications are invited from graduates, preferably with a degree in Civil Engineering, and with a minimum of five years' experience in the field of structural analysis. The successful candidate will be expected to contribute to the development of the School of Civil Engineering and to the development of the Department of Building and Surveying.

## READER—Accounting

PRINCIPAL LECTURER—Post Graduate Course Organiser

## LECTURER II—Financial Accounting

Applications are invited from graduates, preferably with a degree in Accounting, and with a minimum of five years' experience in the field of financial accounting. The successful candidate will be expected to contribute to the development of the School of Accounting and to the development of the Department of Building and Surveying.

## PRINCIPAL LECTURER—Educational Management

To play a leading part in the development of Educational Management, the Polytechnic requires a senior member of staff with a minimum of five years' experience in the field of educational management. The successful candidate will be expected to contribute to the development of the School of Educational Management and to the development of the Department of Building and Surveying.

## LECTURER II/SENIOR LECTURER—Organisational Behaviour

A Management Lecturer is required to teach in the general and Organisational Behaviour on postgraduate, diploma and certificate courses. The successful candidate will be expected to contribute to the development of the School of Management and to the development of the Department of Building and Surveying.

## LECTURER II/SENIOR LECTURER—Public Service Management

The Centre for Management Education requires a Management Lecturer capable of making a substantial contribution to the development of the Public Service Management course. The successful candidate will be expected to contribute to the development of the School of Management and to the development of the Department of Building and Surveying.

Principal Lecturer £5,432-£7,134 p.a.  
Senior Lecturer £5,523-£8,447 p.a.  
Lecturer II £3,744-£5,985 p.a.  
(Waiting Lecturer or Lecturer II Scale)

The Polytechnic is a direct grant institution with an Independent Board of Governors. It opened in 1971 and now has a student population of some 7,100. It has extensive new purpose-built accommodation, including 750 residential places on the 114-acre campus overlooking the sea at Jordanstown, a pleasant and quiet residential area. There is a scheme of assistance with removal.

Further particulars and application forms, which must be returned by May 2, may be obtained by telephoning Whiteabbey (0231) 65131, ext. 224, or by writing to:

The Establishment Officer, Ulster College, The Northern Ireland Polytechnic, Shore Road, Newtownabbey, Co. Antrim BT37 0QB.

The Careers Research &amp; Advisory Centre and the Hatfield Polytechnic

## National Institute for Careers Education and Counselling

Careers Guidance Integration Project

## 1. Senior Fellow

Ref: 012

It is hoped to make a full-time appointment, at Polytechnic Level, for a Senior Fellow for three years, commencing September 1, 1978, to accept major responsibility for the Institute's Careers Guidance Integration Project. The Project, which will also be staffed by existing members of NICEC's team, will work intensively with secondary schools and further education colleges seeking to improve careers education and guidance provisions for students. The successful applicant will be required to carry out studies of existing provisions, engage in ongoing development 'colloquia' with school or college staff, offer skill-training and write reports on the ways in which organisational development occurs. The successful applicant will be based near Hemford.

Schools Council Careers Education & Guidance Project

## 2. Senior Fellow

Ref: 013

It is hoped to appoint a full-time Senior Fellow at Polytechnic Level, for a full-time post, to carry out a year project—commencing 1 September, 1978—assessing the work of the Schools Council Careers Education and Guidance Project and including the provision of training and other support for the use of the project. The successful applicant will be based near Hemford.

## 3. Field Officer

Ref: 014

It is hoped to appoint a full-time Senior Fellow at Polytechnic Level, for a full-time post, to carry out a year project—commencing 1 September, 1978—assessing the work of the Schools Council Careers Education and Guidance Project and including the provision of training and other support for the use of the project. The successful applicant will be based near Hemford.

Further information concerning all three posts is available from the Staffing Office, The Hatfield Polytechnic, PO Box 109, Hatfield, Herts., or telephone 68700 ext. 309.

Please quote reference number.

## Polytechnics continued

The following posts are currently available for application:

Faculty of Business—Banking Practice

## Lecturer II/Senior Lecturer—Business Administration Policy (2 posts)

To teach in the field of business administration, organisation, policy, or computing applications, or to contribute to the teaching of these subjects. Applicants should be graduates with an interest in new developments in teaching methods and in part-time education. (Ref: S/AO 3134)

## Department of Accounting and Finance Lecturer II/Senior Lecturer in Accounting

To teach on degree and professional courses and to contribute to the teaching of these subjects. Applicants should have relevant industrial and/or research experience. A professional accounting qualification and a first or higher degree are desirable. (Ref: S/AO 3135)

Faculty of Environmental Studies—Waltham Forest Precinct

Department of Civil Engineering

## Lecturer II

Applicants should be graduate civil engineers with industrial and/or research experience. An interest in concrete technology and materials is desirable but not essential. (Ref: S/AO 3136)

## Senior Lecturer

Applicants should be graduate civil engineers and preferably possess a higher degree in the field of structural engineering. They should have relevant industrial and/or research experience, and be members of the appropriate Professional Institution. (Ref: S/AO 3137)

Salary Scales: LECTURER II £3,278-£5,493 SENIOR LECTURER £5,031-£8,417 (Plus appropriate Government Supplement of up to a maximum of £402 and applicable London Allowance.)

Further details and application forms from: The Senior Academic Personnel Officer (2), North East London Polytechnic, 100 Broad Street, London E15 4JH. Telephone 01-527 2272, extension 20. Closing date 24th April, 1978.

## NELP North East London Polytechnic

## THE POLYTECHNIC HUDDERSFIELD

Department of Behavioural Sciences

## LECTURER II—PSYCHOLOGY

Ref: ACA/201

Applications are invited from graduates with a special interest in Social Psychology and Developmental Psychology. Some knowledge of Genetics is desirable.

## LECTURER II—SOCIAL WORK

Ref: ACA/203

Applications are invited from professionally qualified graduates to join an enthusiastic team in a dynamic Department. The successful candidate will be involved in teaching social work methods and experience in the field of Probation and After-care is desirable.

Staff are expected to undertake activities, including research, in addition to teaching duties.

Salary: LI, £3,744 to £5,985 per annum (inclusive of salary supplements).

Further details and application forms, which should be returned by May 2, 1978, from the Establishment Office, The Polytechnic, Huddersfield HD1 3DH (telephone 0484 2228, extension 2228).

## Head of Management Education Kingston Regional Management Centre Kingston Polytechnic

He is responsible for advanced level courses in one of the largest Centres for management education in the UK, including a range of management development programmes; a CMAA postgraduate Diploma in Management Studies and the development of a new Masters degree in Industrial Management.

Applicants should have substantial experience in industry and in education and should hold a Masters or Doctoral degree.

Salary in range £8,826-£9,702 (under review) including London allowance.

Further details and application forms to be returned by 24 April from Academic Registry (Dept. A0), Kingston Polytechnic, Romby Road, Kingston upon Thames, K11 2EE.

## The Polytechnic of North London

## DEPUTY DIRECTOR

Applications are invited for this post, vacant through the appointment of Dr. N. Singh to the Directorship of Thames Polytechnic.

Candidates should have high academic qualifications, a special interest in academic planning and development in higher education, and in the distribution of resources; and appropriate administrative experience, preferably in a university or polytechnic.

Salary range: £12,165-£12,591 (includes London Allowance).

Further information may be obtained from The Clerk to the Governors, The Polytechnic of North London, Holloway, London, N7 8DB.

Closing date for applications: 28th April, 1978.

## THE POLYTECHNIC HUDDERSFIELD (Readvertisement)

## Department of Business Studies LECTURER II, SENIOR LECTURER OR PRINCIPAL LECTURER IN BUSINESS LAW

Candidates should possess most of the following qualifications: (a) Industrial/Professional experience; (b) Experience in Higher Education, in particular with Degree Awards of the Council for National Academic Awards; (c) A Professional Academic Award; (d) A Higher Degree in Law or Business Law.

The grade of appointment will be determined by the successful candidate's qualifications and experience.

Staff are expected to undertake activities, including research, in addition to teaching duties.

Salary: LI, £3,744 to £5,985 per annum; SL, £5,523 to £8,447 (bait) to £9,093 per annum; PL, £8,447 to £13,134 (bait) to £18,070 per annum. Further details and application forms, which should be returned by April 28, 1978, from the Establishment Office, The Polytechnic, Huddersfield HD1 3DH (telephone 0484 2228, extension 2228).

## NORTH STAFFORDSHIRE POLYTECHNIC

FACULTY OF APPLIED SCIENCE

## LECTURER II/SENIOR LECTURER IN BIOLOGY

The Polytechnic currently offers a BSc (Hons) course in Combined Science with a specialism in either Chemistry, Earth Science and Biology, or Physics. Plans are well advanced for the inclusion of a fourth main option in this science, and applications (including a curriculum vitae) should be sent to the Head of the Department of Applied Science, North Staffordshire Polytechnic, Stoke-on-Trent, ST4 4JH.

Applicants should be graduates with a minimum of a 2:1 in a relevant subject, and should have relevant industrial and/or research experience.

Salary: LI, £3,744 to £5,985 per annum; SL, £5,523 to £8,447 p.a.

Further details and application forms, which should be returned by May 2, 1978, from the Establishment Office, The Polytechnic, Stoke-on-Trent, ST4 4JH.

Telephone: 0922 55531.

Completed application forms should be returned within two weeks of the appearance of this advertisement.

## Preston Polytechnic

Applications are invited for the new position of

## Head of School/Professor of Management Studies

which has been created to take account of the continuing development of the Polytechnic.

Salary: £7,887-£9,783 (under review). Application forms and further particulars obtainable from the Chief Administrative Officer (Staffing), Preston Polytechnic, Corporation Street, Preston PR1 2TQ, to whom completed applications should be returned by Tuesday, May 2nd, 1978.

KINGSTON POLYTECHNIC

School of Geology

## PRINCIPAL LECTURER IN GEOLOGY

The School operates a range of CMAA degree courses and is actively engaged in research. A good background of research is desirable, with industrial and/or survey experience would be an advantage.

Salary range including '76 and '77 supplements £6,432-£7,134 (bait)-£8,070-£8,772 London allowance.

Further details and application forms (to be returned by 24 April) from Academic Registry, Dept. A0, Kingston Polytechnic, Romby Road, Kingston upon Thames, K11 2EE. 01-549 1366 (re-advertisement).

## Preston Polytechnic

Applications are invited for the following appointments:

## Senior Lecturer/Lecturer II in Law Organisation Studies

Salary scales (under review): Senior Lecturer £5,523-£8,447 p.a.; Lecturer II £3,744-£5,985 p.a.

Application forms and further particulars may be obtained from the Chief Administrative Officer (Staffing), Preston Polytechnic, Corporation Street, Preston PR1 2TQ, to whom completed applications should be returned by Monday, 24th April, 1978.

## NORTH STAFFORDSHIRE POLYTECHNIC

## LECTURESIPS IN GEOGRAPHY

Applications (male/female) are invited for two Lectureships in Geography, one on the LI scale and one on the L2/Senior Lectureship scale, according to age, qualifications and experience.

These appointments will have particular responsibilities for a first-year course on the Physical Basis of Geography and a more advanced course on Economic, Evaluation and Management. Additional interest in either the Tropical World or Economic Geography would be an advantage.

Further particulars and application forms are available from: The Deputy Director (Staffing), North Staffordshire Polytechnic, Stoke-on-Trent, ST4 4JH.

## KINGSTON POLYTECHNIC

SCHOOL OF LAW

Candidates are invited to apply for an appointment as

## LECTURER/SENIOR LECTURER

in the School of Law. Salary range, to include '76 and '77 supplements, £3,744 to £8,099 plus London allowance. Further details and application forms (to be returned by April 24, 1978) from Academic Registry, Dept. A0, Kingston Polytechnic, Romby Road, Kingston upon Thames, K11 2EE. 01-549 1366.

## BRISTOL THE POLYTECHNIC

DEPARTMENT OF MATHEMATICS AND PHYSICS

## LECTURER II/SENIOR LECTURER IN MATHEMATICS

A RESEARCH ASSISTANT is required to work on the project of a research programme in the field of Mathematics. The project involves research in the field of Mathematics, and the successful candidate will be expected to contribute to the development of the School of Mathematics and Physics.

Applicants should be graduates with a minimum of a 2:1 in a relevant subject, and should have relevant industrial and/or research experience.

Salary: LI, £3,744 to £5,985 per annum; SL, £5,523 to £8,447 p.a.

Further details and application forms, which should be returned by May 2, 1978, from the Establishment Office, The Polytechnic, Bristol, BS1 1LY.

Completed application forms should be returned within two weeks of the appearance of this advertisement.

## LONDON THE POLYTECHNIC

DEPARTMENT OF BUSINESS STUDIES

## LECTURER II/SENIOR LECTURER IN BUSINESS STUDIES

Applications are invited for the following posts, duties to be commensurate with the grade of appointment.

Salary: LI, £3,744 to £5,985 per annum; SL, £5,523 to £8,447 p.a.

Further details and application forms, which should be returned by May 2, 1978, from the Establishment Office, The Polytechnic, London, EC1A 4AP, to whom completed applications should be returned by 25th April, 1978.

## LEICESTER THE POLYTECHNIC

DEPARTMENT OF BUSINESS STUDIES

## LECTURER II/SENIOR LECTURER IN BUSINESS STUDIES

Applications are invited for the following posts, duties to be commensurate with the grade of appointment.

Salary: LI, £3,744 to £5,985 per annum; SL, £5,523 to £8,447 p.a.